



WATTS

IMPROVEMENT
OF
THE MIND

NEW YORK & CHICAGO



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IMPROVEMENT
OF
THE MIND

✓
BY ISAAC WATTS, D.D.

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“Whoever has the care of instructing others, may be charged with
deficiency in his duty, if this book is not recommended.”

—DR. JOHNSON

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PREFACE.

THE *Improvement of the Mind* by Doctor Watts is full of practical wisdom. Prof. L. F. Parker, of the Chair of History in the State University of Iowa, writes as follows: "Watts' little volume on the *Improvement of the Mind* cost him twenty years of capital thinking, and is still the most comprehensive, most suggestive, and best of its kind. It is not only unequalled but incomparable; so far below it, in my estimation; are all its competitors. Whoever induces a young person, on the verge of active life to read "Watts" carefully, has done much, very much, to ennoble him in all thought and living."

It is in the hope of recovering to the youth of the present age, this excellent but almost forgotten book, that the work of recasting it has been attempted. In endeavoring to adapt it to the needs of the present, the following changes have been made:

First—Nearly one-third of the book has been eliminated, as being too theological or too closely related to the age and country of the author.

Second—A brief but comprehensive analysis has been prepared, which appears as a table of contents.

Third—Prominence is given to some of the more essential doctrines by stating them in large type, while explanatory and illustrative matter is given in smaller type.

But few changes have been made in the text other than those mentioned above, as it seemed desirable to preserve the unique and forcible style of the author. The original work was first published in 1727, and although it is over one hundred and fifty years old, yet its teachings are in substantial harmony with the truest pedagogical doctrines of to-day. It is believed that in its present form and dress it is adapted to private reading, and reading circles, and also as a text-book in Secondary and Normal Schools.

S. N. F.

A SKETCH OF THE LIFE OF THE AUTHOR.

ISAAC WATTS, D.D., an English dissenting clergyman and poet, was born in Southampton, July 17, 1674, and died in London, November 25, 1748. He was educated by his father, who kept a boarding school in Southampton and then an academy in London. When a boy he was very studious, spending for books the little money received as presents, and devoting his leisure hours to study and reading, instead of joining other boys in play. At school he allowed himself no time for exercise and play, and very little for sleep. He used to mark all the books he read; abridge some, and annotate others of them. In 1698 he was chosen assistant minister to the Rev. Isaac Chauncey, of an Independent Congregation in Mark Lane, London, of which he became pastor in 1702, and remained at his post until his death.

Doctor Watts wrote largely for almost all classes of readers, students of all ages, in Science, Literature, Poetry and Divinity. His complete works have been published in various editions of from six to nine volumes. His *Logic* and his *Improvement of the Mind* are the best known of his prose writings. Of his literary merits Doctor Johnson said: "He has provided instruction for all ages, from those who are lisping their first lessons to the enlightened readers of Locke; he has left neither corporal nor spiritual nature unexamined. He has taught the science of reasoning and the science of the stars. His character, therefore, must be judged from the multiplicity and diversity of his attainments, rather than from any single performance.

Of his *Hymns*, James Montgomery said: "Every Sabbath, in every region where his native tongue is spoken, thousands and tens of thousands of voices are sending the sacrifices of prayer and praise to God in the strains which he prepared a century ago. Probably no poetry in the language has been more widely read or warmly prized.

Doctor Watts was small in stature, being little more than five feet high, and was never married. Monuments have been erected to his memory in Abney Park and Westminster Abbey.

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THE IMPROVEMENT OF THE MIND.

PART I.

INSTRUCTIONS FOR THE ATTAINMENT OF USEFUL KNOWLEDGE.

INTRODUCTION.

No man is obliged to learn and know every thing ; this can neither be sought nor required, for it is utterly impossible ; yet all persons are under some obligation to their own understanding ; otherwise it will be a barren desert, or a forest overgrown with weeds and brambles. Universal ignorance or infinite errors will overspread the mind which is utterly neglected and lies without any cultivation.

Skill in the sciences is indeed the business and profession of but a small part of mankind ; but there are many others placed in such an exalted rank in the world, as allows them much leisure and large opportunities to cultivate their reason, and to beautify and enrich their minds with various knowledge. Even the lower orders of men have particular callings in life, wherein they ought to acquire a just degree of skill ; and this is not to be done well, without thinking and reasoning about them.

The common duties and benefits of society, which belong to every man living, as we are social creatures, and even our native and necessary relations to a family,

a neighborhood, or government, oblige all persons, whatsoever, to use their reasoning powers upon a thousand occasions; every hour of life calls for some regular exercise of our judgment, as to time and things, persons and actions: without a prudent and discreet determination in matters before us, we shall be plunged into perpetual errors in our conduct. Now that which should always be practiced must at some time be learned.

Besides, every son and daughter of Adam has a most important concern in the affairs of the life to come, and therefore it is a matter of the highest moment, for every one to understand, to judge, and to reason right about the things of religion. It is vain for any to say, we have no leisure time for it. The daily intervals of time, and vacancies from necessary labor, together with the one day in seven in the Christian world, allow sufficient time for this, if men would but apply themselves to it with half so much zeal and diligence as they do to the trifles and amusements of this life, and it would turn to infinitely better account.

Thus it appears to be the necessary duty and the interest of every person living, to improve his understanding, to inform his judgment, to treasure up useful knowledge, and to acquire the skill of good reasoning, as far as his station, capacity, and circumstances furnish him with proper means for it. Our mistakes in judgment may plunge us into much folly and guilt in practice. By acting without thought or reason, we dishonor the God that made us reasonable creatures, we often become injurious to our neighbors, kindred, or friends, and we bring sin and misery upon ourselves; for we are accountable to God, our Judge, for every part of our irregular and mistaken conduct, where He hath given us sufficient advantages to guard against those mistakes.

CHAPTER I.

GENERAL RULES FOR THE IMPROVEMENT OF KNOWLEDGE.

RULE I.—Deeply possess your mind with the vast importance of a good judgment, and the rich and inestimable advantage of right reasoning. Review the instances of your own misconduct in life; think seriously with yourselves how many follies and sorrows you had escaped, and how much guilt and misery you had prevented, if from your early years you had but taken due pains to judge aright concerning persons, times, and things. This will awaken you with lively vigor to address yourselves to the work of improving your reasoning powers, and seizing every opportunity and advantage for that end.

II. Consider the weaknesses, frailties, and mistakes of human nature in general, which arise from the very constitution of a soul united to an animal body and subjected to many inconveniences thereby. Consider the depth and difficulty of many truths, and the flattering appearances of falsehood, whence arises an infinite variety of dangers to which we are exposed in our judgment of things. Read with greediness those authors that treat of the doctrine of prejudices, prepossessions, and springs of error, on purpose to make your soul watchful on all sides, that it suffer itself, as far as possible, to be imposed upon by none of them.

III. A slight view of things so momentous is not sufficient. You should therefore contrive and practice some proper methods to acquaint yourself with your own ignorance, and to impress your mind with a deep and

painful sense of the low and imperfect degrees of your present knowledge, that you may be incited with labor and activity to pursue after greater measures. Among others, you may find some such methods as these successful.

1. *Take a wide survey now and then of the vast and unlimited region of learning.* Let your meditations run over the names of all the sciences, with their numerous branchings, and innumerable particular themes of knowledge; and then reflect how few of them you are acquainted with in any tolerable degree. The most learned of mortals will never find occasion to act over again what is fabled of Alexander the Great, that when he had conquered what was called the eastern world, he wept for want of more worlds to conquer. The worlds of science are immense and endless.

2. Think what a *numberless variety of questions and difficulties* there are belonging even to that particular science in which you have made the greatest progress, and how few of them there are in which you have arrived at a final and undoubted certainty; excepting only those questions in the pure and simple mathematics, whose theorems are demonstrable, and leave scarce any doubt; and yet, even in the pursuit of some few of these, mankind have been strangely bewildered.

3. *Spend a few thoughts sometimes on the puzzling inquiries* concerning vacuums and atoms, the doctrine of infinites, indivisibles, and incommensurables in geometry, wherein there appear some insolvable difficulties: do this on purpose to give you a more sensible impression of the poverty of your understanding and the imperfection of your knowledge. This will teach you what a vain thing it is to fancy that you know all things, and will instruct you to think modestly of your present attainments, when every dust of the earth and every

inch of empty space surmounts your understanding and triumphs over your presumption.

Arithmo had been bred up to accounts all his life and thought himself a complete master of numbers. But when he was pushed hard to give the square root of the number 2, he tried at it and labored long in millesimal fractions, till he confessed there was no end of the inquiry; and yet he learned so much modesty by this perplexing question, that he was afraid to say it was an impossible thing. It is some good degree of improvement, when we are afraid to be positive.

4. *Read the accounts of those vast treasures of knowledge which some of the dead have possessed, and some of the living do possess.* Read and be astonished at the almost incredible advances which have been made in science. Acquaint yourself with some persons of great learning, that by converse among them and comparing yourself with them, you may acquire a mean opinion of your own attainments and may thereby be animated with new zeal, to equal them as far as possible, or to exceed: thus let your diligence be quickened by a generous and laudable emulation. If Vanillus had never met with Scitorio and Palydes, he had never imagined himself a mere novice in philosophy, nor ever set himself to study in good earnest.

Remember this, that if upon some few superficial acquirements you value, exalt, and swell yourself, as though you were a man of learning already, you are thereby building a most impassable barrier against all improvement; you will lie down and indulge in idleness, and rest yourself contented in the midst of deep and shameful ignorance. *Multi ad scientiam pervenissent & se illuc pervenisse non putassent.*

IV. Presume not too much upon a bright genius, a ready wit, and good parts; for this, without labor and study, will never make a man of knowledge and wisdom. This has been an unhappy temptation to persons of a

vigorous and gay fancy, to despise learning and study. They have been acknowledged to shine in an assembly, and sparkle in a discourse on common topics, and thence they took it into their heads to abandon reading and labor, and grow old in ignorance; but when they had lost their vivacity of animal nature and youth, they became stupid and sottish even to contempt and ridicule.

Lucidus and Scintillo are young men of this stamp; they shine in conversation; they spread their native riches before the ignorant; they pride themselves in their own lively images of fancy, and imagine themselves wise and learned; but they had best avoid the presence of the skillful and the test of reasoning; and I would advise them once a day to think forward a little, what a contemptible figure they will make in age.

The witty men sometimes have sense enough to know their own foible; and therefore they craftily shun the attacks of argument, or boldly pretend to despise and renounce them, because they are conscious of their own ignorance and inwardly confess their want of acquaintance with the skill of reasoning.

V. As you are not to fancy yourself a learned man because you are blessed with a ready wit; so neither must you imagine that large and laborious reading, and a strong memory, can denominate you truly wise.

What that excellent critic has determined when he decided the question, whether wit or study makes the best poet, may well be applied to every sort of learning:

..... Ego nec studium sine divite vena,
Nec rude quid prosit, video, ingenium: alterius sic
Altera poscit opem res, et conjurat amice.

—*Hor. de Art. Poet.*

Thus made English:

Concerning poets there has been contest,
Whether they're made by art or nature best;
But if I may presume in this affair,
Among the rest my judgment to declare,
No art without a genius will avail,
And parts without the help of art will fail:
But both ingredients jointly must unite,
Or verse will never shine with a transcendent light.

—*Oldham.*

It is meditation and studious thought, it is the exercise of your own reason and judgment upon all you read, that gives good sense even to the best genius and affords your understanding the truest improvement. A boy of a strong memory may repeat a whole book of *Euclid*, yet be no geometrician ; for he may not be able perhaps to demonstrate one single theorem.

A well-furnished library and a capacious memory are indeed of singular use toward the improvement of the mind ; but if all your learning be nothing else but a mere amassment of what others have written, without a due penetration into the meaning, and without a judicious choice and determination of your own sentiments, I do not see what title your head has to true learning, above your shelves. Though you have read philosophy and theology, morals and metaphysics in abundance, and every other art and science, yet if your memory is the only faculty employed, with the neglect of your reasoning powers, you can justly claim no higher character but that of a good historian of the sciences.

VI. Be not so weak as to imagine that a life of learning is a life of laziness and ease ; dare not give up yourself to any of the learned professions, unless you are resolved to labor hard at study, and can make it your delight and the joy of your life, according to the motto of our late Lord Chancellor King :

. . . . Labor ipse voluptas.

(Labor, itself, is a pleasure.)

It is no idle thing to be a scholar indeed. A man much addicted to luxury and pleasure, recreation and pastime, should never pretend to devote himself entirely to the sciences, unless his soul be so reformed and refined, that he can taste all these entertainments eminently in his closet, among his books and papers.

Sobrino is a temperate man and a philosopher, and he feeds upon partridge and pheasant, venison and ragouts, and every delicacy, in a growing understanding, and a serene and healthy soul, though he dines on a dish of sprouts or turnips. Languinos loved his ease, and therefore chose to be brought up a scholar; he had much indolence in his temper; and as he never cared for study, he falls under universal contempt in his profession, because he has nothing but the gown and the name.

VII. Let the hope of new discoveries, as well as the satisfaction and pleasure of known truths, **animate your daily industry**. Do not think learning in general is arrived at its perfection, or that the knowledge of any particular subject in any science can not be improved, merely because it has lain five hundred or a thousand years without improvement. The present age, by the blessing of God on the ingenuity and diligence of men, has brought to light such truths in natural philosophy, and such discoveries in the heavens and the earth, as seemed to be beyond the reach of man. But may there not be Sir Isaac Newtons in every science? You should never despair therefore of finding out that which has never yet been found, unless you see something in the nature of it which renders it unsearchable and above the reach of our faculties.

VIII. Do not hover always on the surface of things, nor take up suddenly with mere appearances; but **penetrate into the depth of matters**, as far as your time and circumstances allow, especially in those things which relate to your own profession. Do not indulge yourselves to judge of things by the first glimpse, or a short and superficial view of them; for this will fill the mind with errors and prejudices, and give it a wrong turn and ill habit of thinking, and make much work for retraction.

As for those sciences, or those parts of knowledge, which either your profession, your leisure, your inclination, or your incapacity, forbid you to pursue with much application, or to search far into them, you must be con-

tented with an historical and superficial knowledge of them, and not pretend to form any judgment of your own on those subjects which you understand very imperfectly.

IX. Once a day, especially in the early years of life and study, call yourselves to an account what new ideas, what new proposition or truth you have gained, what further confirmation of known truths, and what advances you have made in any part of knowledge; and let no day, if possible, pass away without some intellectual gain: such a course, well pursued, must certainly advance us in useful knowledge. It is a wise proverb among the learned, borrowed from the lips and practice of a celebrated painter, *Nulla dies sine linea*, “**Let no day pass without one line at least;**” and it was a sacred rule among the Pythagoreans, That they should every evening thrice run over the actions and affairs of the day, and examine what their conduct had been, what they had done, or what they had neglected; and they assured their pupils, that by this method they would make a noble progress in the path of virtue.

Nor let soft slumber close your eyes,
Before you've recollected thrice
The train of action through the day :
Where have my feet chose out their way.
What have I learn'd, where'er I've been,
From all I've heard, from all I've seen ?
What know I more that's worth the knowing?
What have I done that's worth the doing?
What have I sought that I should shun ?
What duty have I left undone ?
Or into what new follies run ?
These self-inquiries are the road
That leads to virtue, and to God.

I would be glad, among a nation of Christians, to find young men heartily engaged in the practice of what this heathen writer teaches.

X. Maintain a constant watch at all times against a dogmatical spirit: fix not your assent to any proposition in a firm and unalterable manner, till you have some firm and unalterable ground for it, and till you have arrived at some clear and sure evidence; till you have turned the proposition on all sides and searched the matter through and through, so that you can not be mistaken. And even where you may think you have full ground; of assurance, be not too early, nor too frequent, in expressing this assurance in too peremptory and positive a manner, remembering that human nature is always liable to mistake in this corrupt and feeble state. A dogmatical spirit has many inconveniences attending it: as

1. *It stops the ear* against all further reasoning upon that subject, *and shuts up the mind* from all further improvements of knowledge. If you have resolutely fixed your opinion, though it be upon too slight and insufficient grounds, yet you will stand determined to renounce the strongest reason brought for the contrary opinion, and grow obstinate against the force of the clearest argument.

Positivo is a man of this character; and has often pronounced his assurance of the Cartesian vortexes; last year some further light broke in upon his understanding, with uncontrollable force, by reading something of mathematical philosophy; yet having asserted his former opinions in a most confident manner, he is tempted now to wink a little against the truth, or to prevaricate in his discourse upon that subject, lest by admitting conviction, he should expose himself to the necessity of confessing his former folly and mistake: and he has not humility enough for that.

2. *A dogmatical spirit naturally leads us to arrogance of mind*, and gives a man some airs in conversation which are too haughty and assuming. Audens is a man of learning, and very good company; but his infallible assurance renders his carriage sometimes insupportable.

A dogmatical spirit inclines a man to be censorious of his neighbors. Every one of his own opinions appears to him written as it were with sunbeams; and he grows angry that his neighbor does not see it in the same light. He is tempted to disdain his correspondents, as men of a low and dark understanding, because they will not believe what he does. Furio goes farther in this wild track and charges those who refuse his notions with willful obstinacy and vile hypocrisy; he tells them boldly, that they resist the truth and sin against their consciences.

XI. Though caution and slow assent will guard you against frequent mistakes and retractions; yet **you should** get humility and courage enough to **retract any mistake, and confess an error**: frequent changes are tokens of levity in our first determinations; yet you should never be too proud to change your opinion, nor frightened at the name of changeling. Learn to scorn those vulgar bugbears, which confirm foolish man in his old mistakes, for fear of being charged with inconstancy. I confess it is better not to judge, than to judge falsely; it is wiser to withhold our assent till we see complete evidence; but if we have too suddenly given up our assent, as the wisest man does sometimes, if we have professed what we find afterwards to be false, we should never be ashamed nor afraid to renounce a mistake. That is a noble essay which is found among the *Occasional Papers*, “to encourage the world to practice retractions”; and I would recommend it to the perusal of every scholar and every Christian.

XII. He that would raise his judgment above the vulgar rank of mankind, and learn to pass a just sentence on persons and things, must **take heed of a fanciful temper of mind** and a humorous conduct in his affairs. Fancy and humor, early and constantly indulged, may expect an old age overrun with follies.

The notion of a humorist is one that is greatly pleased, or greatly displeased, with little things ; who sets his heart much upon matters of very small importance ; who has his will determined every day by trifles, his actions seldom directed by the reason and nature of things, and his passions frequently raised by things of little moment. Where this practice is allowed, it will insensibly warp the judgment to pronounce little things great, and tempt you to lay a great weight upon them. In short, this temper will incline you to pass an unjust value on almost every thing that occurs ; and every step you take in this path is just so far out of the way to wisdom.

XIII. For the same reason have a care of trifling with things important and momentous, or of sporting with things awful and sacred : do not indulge a spirit of ridicule, as some witty men do on all occasions and subjects. This will as unhappily bias the judgment on the other side, and incline you to pass a low esteem on the most valuable objects. Whatsoever evil habit we indulge in practice, it will insensibly obtain a power over our understanding and betray us into many errors.

Jocander is ready with his jests to answer every thing that he hears ; he reads books in the same jovial humor, and has gotten the art of turning every thought and sentence into merriment. How many awkward and irregular judgments does this man pass upon solemn subjects, even when he designs to be grave and in earnest ! His mirth and laughing humor is formed into habit and temper, and leads his understanding shamefully astray. You will see him wandering in pursuit of a gay flying feather, and he is drawn by a sort of *ignis fatuus* into bogs and mire almost every day of his life.

XIV. Ever maintain a virtuous and pious frame of spirit ; for an indulgence of vicious inclinations debases the understanding and perverts the judgment. Whoredom and wine, and new wine, take away the heart and soul, and reason of a man. Sensuality ruins the better faculties of the mind ; an indulgence to appetite and pas-

sion enfeebles the powers of reason ; it makes the judgment weak and susceptible of every falsehood, and especially of such mistakes as have a tendency towards the gratification of the animal : and it warps the soul aside strangely from that steadfast honesty and integrity that necessarily belongs to the pursuit of truth. It is the virtuous man who is in a fair way to wisdom. "God gives to those that are good in His sight wisdom, and knowledge, and joy," Eccles. 2 : 26.

XV. Watch against the pride of your own reason and a vain conceit of your own intellectual powers, with the neglect of divine aid and blessing. Presume not upon great attainments in knowledge by your own self-sufficiency : those who trust to their own understanding entirely are pronounced fools in the word of God ; and it is the wisest of men gives them this character. "He that trusteth in his own heart is a fool," Prov. 28 : 26. And the same divine writer advises us to "trust in the Lord with all our heart, and not to lean to our understandings, nor to be wise in our own eyes," chap. 3 : 5, 7.

XVI. Offer up, therefore, your daily requests to God the Father of lights, that He would bless all your attempts and labors in reading, study, and conversation. Think with yourself how easily and how insensibly, by one turn of thought, He can lead you into a large scene of useful ideas: He can teach you to lay hold on a clue which may guide your thoughts with safety and ease through all the difficulties of an intricate subject. Think how easily the Author of your beings can direct your motions, by His providence, so that the glance of an eye, or a word striking the ear, or a sudden turn of the fancy, shall conduct you to a train of happy sentiments. By His secret and supreme method of government, He can draw you to read such a treatise, or converse with such a person, who may give you more light into some deep subject in

an hour, than you could obtain by a month of your own solitary labor.

Implore constantly His divine grace to point your inclination to proper studies, and to fix your heart there. He can keep off temptations on the right hand, and on the left, both by the course of His providence, and by the secret and insensible intimations of His Spirit. He can guard your understandings from every evil influence of error, and secure you from the danger of evil books and men, which might otherwise have a fatal effect and lead you into pernicious mistakes.

Even the poets call upon the muse as a goddess to assist them in their compositions.

The first lines of Homer in his *Iliad* and his *Odyssey*, the first line of Musæus in his song of *Hero and Leander*, the beginning of Hesiod in his poem of *Works and Days*, and several others furnish us with sufficient examples of this kind; nor does Ovid leave out this piece of devotion, as he begins his stories of the *Metamorphoses*. Christianity so much the more obliges us, by the precepts of Scripture, to invoke the assistance of the true God in all our labors of the mind, for the improvement of ourselves and others. Bishop Saunderson says, that study without prayer is atheism, as well as that prayer without study is presumption. And we are still more abundantly encouraged by the testimony of those who have acknowledged, from their own experience, that sincere prayer was no hinderance to their studies: they have gotten more knowledge sometimes upon their knees, than by their labor in perusing a variety of authors; and they have left this observation for such as follow, *Bene orasse est bene studuisse*, "praying is the best studying."

To conclude, let industry and devotion join together, and you need not doubt the happy success. Prov. 2:2:

“Incline thine ear to wisdom; apply thine heart to understanding; cry after knowledge, and lift up thy voice: seek her as silver, and search for her as for hidden treasures; then shalt thou understand the fear of the Lord,” etc., which “is the beginning of wisdom.” It is “the Lord who gives wisdom even to the simple, and out of his mouth cometh knowledge and understanding.”

CHAPTER II.

OBSERVATION, READING, INSTRUCTION BY LECTURES,
CONVERSATION, AND STUDY, COMPARED.

THERE are five eminent means or methods whereby the mind is improved in the knowledge of things; and these are observation, reading, instruction by lectures, conversation, and meditation; which last in a most peculiar manner, is called study.

Let us survey the general definitions or descriptions of them all.

1. **Observation** is the notice that we take of all occurrences in human life, whether they are sensible or intellectual, whether relating to persons or things, to ourselves or others. It is this that furnishes us, even from our infancy, with a rich variety of ideas and propositions, words and phrases: it is by this we know that fire will burn, that the sun gives light, that a horse eats grass, that an acorn produces an oak, that man is a being capable of reasoning and discourse, that our judgment is weak, that our mistakes are many, that our sorrows are great, that our bodies die and are carried to the grave, and that one generation succeeds another. All those things which we see, which we hear or feel, which we perceive by sense or consciousness, or which we know

in a direct manner, with scarce any exercise of our reflecting faculties or our reasoning powers, may be included under the general name of observation.

When this observation relates to any thing that immediately concerns ourselves, and of which we are conscious, it may be called **experience**. So I am said to know or experience that I have in myself a power of thinking, fearing, loving, etc., that I have appetites and passions working in me, and many personal occurrences have attended me in this life.

Observation, therefore, includes all that Mr. Locke means by sensation and reflection.

When we are searching out the nature or properties of any being by various methods of trial, or when we apply some active powers, or set some causes to work to observe what effects they would produce, this sort of observation is called **experiment**. So when I throw a bullet into water, I find it sinks; and when I throw the same bullet into quicksilver, I see it swims: but if I beat out this bullet into a thin hollow shape, like a dish, then it will swim in the water too. So when I strike two flints together, I find they produce fire; when I throw a seed in the earth, it grows up into a plant.

All these belong to the first method of knowledge; which I shall call observation.

2. **Reading** is that means or method of knowledge whereby we acquaint ourselves with what other men have written, or published to the world in their writings. These arts of reading and writing are of infinite advantage; for by them we are made partakers of the sentiments, observations, reasonings, and improvements of all the learned world, in the most remote nations, and in former ages almost from the beginning of mankind.

3. **Public or private lectures** are such verbal instructions as are given by a teacher while the

learners attend in silence. This is the way of learning religion from the pulpit; or of philosophy or theology from the professor's chair; or of mathematics, by a teacher showing us various theorems or problems, *i. e.*, speculations or practices, by demonstration and operation, with all the instruments of art necessary to those operations.

4. **Conversation** is another method of improving our minds, wherein, by mutual discourse and inquiry, we learn the sentiments of others, as well as communicate our sentiments to others in the same manner. Sometimes, indeed, though both parties speak by turns, yet the advantage is only on one side, as when a teacher and a learner meet and discourse together: but frequently the profit is mutual. Under the head of conversation we may also rank disputes of various kinds.

5. **Meditation** or study includes all those exercises of the mind, whereby we render all the former methods useful for our increase in true knowledge and wisdom. It is by meditation we come to confirm our memory of things that pass through our thoughts in the occurrences of life, in our own experiences, and in the observations we make. It is by meditation that we draw various inferences, and establish in our minds general principles of knowledge. It is by meditation that we compare the various ideas which we derive from our senses, or from the operations of our souls, and join them in propositions. It is by meditation that we fix in our memory whatsoever we learn, and form our judgment of the truth or falsehood, the strength or weakness, of what others speak or write. It is meditation or study that draws out long chains of argument, and searches and finds deep and difficult truths which before lay concealed in darkness.

It would be a needless thing to prove, that our own

solitary meditations, together with the few observations that the most part of mankind are capable of making, are not sufficient, of themselves, to lead us into the attainment of any considerable proportion of knowledge, at least in an age so much improved as ours is, without the assistance of conversation and reading, and other proper instructions that are to be attained in our days. Yet each of these five methods have their peculiar advantages, whereby they assist each other; and their peculiar defects, which have need to be supplied by the other's assistance. Let us trace over some of the particular advantages of each.

I. One method of improving the mind is observation, and the advantages of it are these:

1. *It is owing to observation, that our mind is furnished with the first simple and complex ideas.* It is this lays the ground-work and foundation of all knowledge, and makes us capable of using any of the other methods for improving the mind: for if we did not attain a variety of sensible and intellectual ideas by the sensations of outward objects, by the consciousness of our own appetites and passions, pleasures and pains, and by inward experience of the actings of our own spirits, it would be impossible either for men or books to teach us any thing. It is observation that must give us our first ideas of things, as it includes in it sense and consciousness.

2. *All our knowledge derived from observation, whether it be of single ideas or of propositions, is knowledge gotten at first hand.* Hereby we see and know things as they are, or as they appear to us; we take the impressions of them on our minds from the original objects themselves, which give a clearer and stronger conception of things: these ideas are more lively, and the propositions (at least in many cases) are much more

evident. Whereas, what knowledge we derive from lectures, reading, and conversation, is but the copy of other men's ideas, that is, the picture of a picture; and it is one remove farther from the original.

3. *Another advantage of observation is*, that we may gain knowledge all the day long, and every moment of our lives; and every moment of our existence we may be adding something to our intellectual treasures thereby, except only while we are asleep, and even then the remembrance of our dreaming will teach us some truths, and lay a foundation for a better acquaintance with human nature, both in the powers and in the frailties of it.

II. The next way of improving the mind is by reading, and the advantages of it are such as these :

1. *By reading we acquaint ourselves, in a very extensive manner, with the affairs, actions, and thoughts, of the living and the dead*, in the most remote nations and most distant ages, and that with as much ease as though they lived in our own age and nation. By reading of books we may learn something from all parts of mankind; whereas, by observation we learn all from ourselves, and only what comes within our own direct cognizance; by conversation we can only enjoy the assistance of a very few persons, viz., those who are near us and live at the same time when we do, that is, our neighbors and contemporaries; but our knowledge is much more narrowed still, if we confine ourselves merely to our own solitary reasonings, without much observation or reading; for then all our improvement must arise only from our own inward powers and meditations.

2. *By reading we learn not only the actions and the sentiments of different nations and ages*, but we transfer to ourselves the knowledge and improvements of the most learned men, the wisest and the best of mankind,

when or wheresoever they lived : for though many books have been written by weak and injudicious persons, yet the most of those books which have obtained great reputation in the world, are the products of great and wise men in their several ages and nations : whereas we can obtain the conversation and instruction of those only who are within the reach of our dwelling, or our acquaintance, whether they are wise or unwise : and sometimes that narrow sphere scarce affords any person of great eminence in wisdom or learning, unless our instructor happen to have this character. And as for our study and meditations, even when we arrive at some good degrees of learning, our advantage for further improvement in knowledge by them, is still far more contracted than what we may derive from reading.

3. *When we read good authors, we learn the best*, the most labored, and most refined sentiments, even of those wise and learned men ; for they have studied hard, and have committed to writing their maturest thoughts, and the result of their long study and experience : whereas, by conversation, and in some lectures, we obtain many times only the present thoughts of our tutors or friends, which (though they may be bright and useful), yet, at first perhaps, may be sudden and indigested, and are mere hints which have risen to no maturity.

4. *It is another advantage of reading*, that we may review what we have read ; we may consult the page again and again, and meditate on it at successive seasons, in our serenest and retired hours, having the book always at hand : but what we obtain by conversation and in lectures, is oftentimes lost again as soon as the company breaks up, or at least when the day vanishes, unless we happen to have the talent of a good memory, or quickly retire and note down what remarkable thoughts or ideas we have found in those discourses. And for the same

reason, and for the want of retiring and writing, many a learned man has lost several useful meditations of his own, and could never recall them again.

III. The advantage of verbal instructions by public or private lectures are these :

1. *There is something more sprightly, more delightful and entertaining*, in the living discourse of a wise, learned, and well qualified teacher, than there is in the silent and sedentary practice of reading. The very turn of voice, the good pronunciation, and the polite and alluring manner which some teachers have attained, will engage the attention, keep the soul fixed, and convey and insinuate into the mind, the ideas of things in a more lively and forcible way, than the mere reading of books in the silence and retirement of the closet.

2. *A tutor or instructor*, when he paraphrases and explains other authors, *can mark out the precise point of difficulty or controversy, and unfold it*. He can show you which paragraphs are of greatest importance, and which are of less moment. He can teach his hearers what authors, or what parts of an author are best worth reading on any particular subject, and thus save his disciples much time and pains, by shortening the labors of their closet and private studies. He can show you what were the doctrines of the ancients, in a compendium which perhaps would cost much labor and the perusal of many books to attain. He can inform you what new doctrines or sentiments are arising in the world before they come to be public; as well as acquaint you with his own private thoughts, and his own experiments and observations, which never were, and perhaps never will be published to the world, and yet may be very valuable and useful.

3. *A living instructor can convey to our senses* those notions with which he would furnish our minds, when

he teaches us natural philosophy, or most parts of mathematical learning. He can make the experiments before our eyes. He can describe figures and diagrams, point to the lines and angles, and make out the demonstration in a more intelligible manner by sensible means, which can not so well be done by mere reading, even though we should have the same figures lying in a book before our eyes. A living teacher, therefore, is a most necessary help in these studies.

I might add also, that even where the subject of discourse is moral, logical, or rhetorical, etc., and which does not directly come under the notice of our senses, a tutor may explain his ideas by such familiar examples, and plain or simple similitudes, as seldom find place in books and writings.

4. *When an instructor in his lectures delivers any matter of difficulty*, or expresses himself in such a manner as seems obscure, so that you do not take up his ideas, clearly or fully, **you have opportunity**, at least when the lecture is finished, or at other proper seasons, **to inquire** how such a sentence should be understood, or how such a difficulty may be explained and removed.

If there be permission given to free converse with the tutor, either in the midst of the lecture, or rather at the end of it, concerning any doubts or difficulties that occur to the hearer, this brings it very near to conversation or discourse.

IV. **Conversation** is the next method of improvement, and it is attended with the following advantages:

1. *When we converse familiarly with a learned friend*, **we have his own help at hand** to explain to us every word and sentiment that seems obscure in his discourse, and to inform us of his whole meaning; so that we are in much less danger of mistaking his sense: whereas in books, whatsoever is really obscure may also abide always ob-

seure without remedy, since the author is not at hand, that we may inquire his sense.

If we mistake the meaning of our friend in conversation, we are quickly set right again; but in reading, we many times go on in the same mistake and are not capable of recovering ourselves from it. Thence it comes to pass that we have so many contests in all ages about the meaning of ancient authors, and especially the sacred writers. Happy should we be could we but converse with Moses, Isaiah, and St. Paul, and consult the prophets and apostles, when we meet with a difficult text: but that glorious conversation is reserved for the ages of future blessedness.

2. *When we are discoursing upon any theme with a friend, we may propose our doubts and objections against his sentiments, and have them solved and answered at once.* The difficulties that arise in our minds may be removed by one enlightening word of our correspondent: whereas in reading, if a difficulty or question arises in our thoughts, which the author has not happened to mention, we must be content without a present answer or solution of it. Books can not speak.

3. Not only the doubts which arise in the mind upon any subject or discourse are easily proposed and solved in conversation, but *the very difficulties we meet with in books, and in our private studies, may find a relief by friendly conferences.* We may pore upon a knotty point in solitary meditation many months without a solution, because perhaps we have gotten into a wrong track of thought; and our labor (while we are pursuing a false scent) is not only useless and unsuccessful, but it leads us perhaps into a long train of error for want of being corrected in the first step. But if we note down this difficulty when we read it, we may propose it to an ingenious correspondent when we see him; we may be re-

lieved in a moment, and find the difficulty vanish: he beholds the object perhaps in a different view, sets it before us in quite another light, leads us at once into evidence and truth, and that with a delightful surprise.

4. *Conversation* calls out into light what has been lodged in all the recesses and secret chambers of the soul: by occasional hints and incidents it brings old useful notions into remembrance; it **unfolds and displays the hidden treasures of knowledge** with which reading observation, and study, had before furnished the mind. By mutual discourse the soul is awakened and allured to bring forth its hoards of knowledge, and it learns how to render them most useful to mankind. A man of vast reading without conversation is like a miser, who lives only to himself.

5. In free and friendly conversation, *our intellectual powers are more animated*, and our spirits act with a superior vigor in the quest and pursuit of unknown truths. There is a sharpness and sagacity of thought that attends conversation beyond what we find whilst we are shut up reading and musing in our retirements. Our souls may be serene in solitude, but not sparkling, though perhaps we are employed in reading the works of the brightest writers. Often has it happened in free discourse, that new thoughts are strangely struck out, and **the seeds of truth sparkle and blaze** through the company, which in calm and silent reading would never have been excited. By conversation you will both give and receive this benefit; as flints, when put into motion, and striking against each other, produce living fire on both sides, which would never have arisen from the same hard materials in a state of rest.

6. In generous conversation, amongst ingenious and learned men, we have *a great advantage of proposing* our private opinions, and of *bringing our own sentiments to the*

test, and learning in a more compendious and safer way what the world will judge of them, how mankind will receive them, what objections may be raised against them, what defects there are in our scheme, and how to correct our own mistakes; which advantages are not so easy to be obtained by our own private meditations: for the pleasure we take in our own notions, and the passion of self-love, as well as the narrowness of our views, tempt us to pass too favorable an opinion on our own schemes; whereas the variety of genius in our several associates will give happy notices how our opinions will stand in the view of mankind.

7. It is also another considerable advantage of conversation, that *it furnishes the student with the knowledge of men and the affairs of life*, as reading furnishes him with book learning. A man who dwells all his days among books may have amassed together a vast heap of notions; but he may be a mere scholar, which is a contemptible sort of character in the world. A hermit, who has been shut up in his cell in a college, has contracted a sort of mould and rust upon his soul, and all his airs of behavior have a certain awkwardness in them; but these awkward airs are worn away by degrees in company: the rust and the mould are filed and brushed off by polite conversation. The scholar now becomes a citizen or a gentleman, a neighbor, and a friend; he learns how to dress his sentiments in the fairest colors, as well as to set them in the strongest light. Thus he brings out his notions with honor; he makes some use of them in the world and improves the theory by the practice.

But before we proceed too far in finishing a bright character by conversation, we should consider that something else is necessary besides an acquaintance with men and books: and therefore I add,

V. Mere lectures, reading, and conversation, without

thinking, are not sufficient to make a man of knowledge and wisdom. It is **our own thought** and reflection, study and meditation, that **must attend all the other methods of improvement and perfect them.** It carries these advantages with it:

1. Though observation and instruction, reading and conversation, may furnish us with many ideas of men and things, yet it is *our own meditation*, and the labor of our own thoughts, that *must form our judgment* of things. Our own thoughts should join or disjoin these ideas in a proposition for ourselves: it is our own mind that must judge for ourselves concerning the agreement or disagreement of ideas, and form propositions of truth out of them. Reading and conversation may acquaint us with many truths, and with many arguments to support them; but it is our own study and reasoning that must determine whether these propositions are true, and whether these arguments are just and solid.

It is confessed there are a thousand things which our eyes have not seen, and which would never come within the reach of our personal and immediate knowledge and observation, because of the distance of times and places: these must be known by consulting other persons; and that is done either in their writings or in their discourses. But after all, let this be a fixed point with us, that it is our own reflection and judgment must determine how far we should receive that which books or men inform us of, and how far they are worthy of our assent and credit.

2. *It is meditation and study that transfers and conveys the notions and sentiments of others to ourselves*, so as to make them properly our own. It is our own judgment upon them, as well as our memory of them, that makes them become our own property. It does as it were concoct our intellectual food, and turns it into a

part of ourselves: just as a man may call his limbs and his flesh his own, whether he borrowed the materials from the ox or the sheep, from the lark or the lobster: whether he derived it from corn or milk, the fruits of the trees, or the herbs and roots of the earth; it is all now become one substance with himself, and he wields and manages those muscles and limbs for his own proper purposes, which once were the substance of other animals or vegetables; that very substance which last week was grazing in the field or swimming in the sea, waving in the milk-pail, or growing in the garden, is now become part of the man.

3. By study and meditation *we improve the hints* that we have *acquired by observation*, conversation, and reading: we take more time in thinking, and by the labor of the mind *we penetrate deeper into the themes of knowledge* and carry our thoughts sometimes much farther on many subjects, than we ever met with, either in the books of the dead or discourses of the living. It is our own reasoning that draws out one truth from another, and forms a whole scheme or science from a few hints which we borrowed elsewhere.

By a survey of these things we may justly conclude, that he who spends all his time in hearing lectures, or poring upon books, without observation, meditation, or converse, will have but a mere historical knowledge of learning, and be able only to tell what others have known or said on the subject: he that lets all his time flow away in conversation, without due observation, reading, or study, will gain but a slight and superficial knowledge, which will be in danger of vanishing with the voice of the speaker; and *he that confines himself merely to his closet*, and his own narrow observation of things, and is taught only by his own solitary thoughts, without instruction by lectures, reading, or free conversation, will

be in danger of a narrow spirit, a vain conceit of himself, and an unreasonable contempt of others ; and after all, he will obtain but a very limited and imperfect view and knowledge of things, and he will seldom learn how to make that knowledge useful.

These five methods of improvement should be pursued jointly, and go hand in hand, where our circumstances are so happy as to find opportunity and conveniency to enjoy them all ; though I must give opinion that two of them, viz : reading and meditation, should employ much more of our time than public lectures, or conversation and discourse. As for observation, we may be always acquiring knowledge that way, whether we are alone or in company.

But it will be for our further improvement, if we go over all these five methods of obtaining knowledge more distinctly and more at large, and see what special advances in useful science we may draw from them all.

CHAPTER III.

RULES RELATING TO OBSERVATION.

THOUGH observation, in the strict sense of the word, and as it is distinguished from meditation and study, is the first means of improvement, and in its strictest sense does not include in it any reasonings of the mind upon the things which we observe, or inferences drawn from them ; yet the motions of the mind are so exceedingly swift, that it is hardly possible for a thinking man to gain experiences or observations without making some secret and short reflections upon them, and therefore in giving a few directions concerning this method of improvement, I shall not so narrowly confine myself to the

first mere impression of object on the mind by observation ; but include also some hints which relate to the first, most easy, and obvious reflections or reasonings which arise from them.

I. Let the enlargement of your knowledge be one constant view and design in life ; since there is no time or place, no transactions, occurrences, or engagements in life, which exclude us from this method of improving the mind. When we are alone, even in darkness and silence, we may converse with our own hearts, observe the working of our own spirits, and reflect upon the inward motions of our own passions in some of the latest occurrences in life ; we may acquaint ourselves with the powers and properties, the tendencies and inclinations, both of body and spirit, and gain a more intimate knowledge of ourselves. When we are in company, we may discover something more of human nature, of human passions and follies, and of human affairs, vices, and virtues, by conversing with mankind and observing their conduct. Nor is there any thing more valuable than the knowledge of ourselves and the knowledge of men, except it be the knowledge of God who made us and our relation to Him as our Governor.

When we are in the house or the city, wheresoever we turn our eyes, we see the works of men ; when we are abroad in the country, we behold more of the works of God. The skies above, and the ground beneath us, and the animal and vegetable world round about us, may entertain our observation with ten thousand varieties.

Endeavor therefore to derive some instruction or improvement of the mind from every thing which you see or hear, from every thing which occurs in human life, from every thing within you or without you.

II. In order to furnish the mind with a rich variety of ideas, the laudable curiosity of young people should

be indulged and gratified, rather than discouraged. It is a very hopeful sign in young persons, to see them curious in observing, and inquisitive in searching into the greatest part of things that occur ; nor should such an inquiring temper be frowned into silence, nor be rigorously restrained, but should rather be satisfied with proper answers given to all those queries.

For this reason also, where time and fortune allow it, young people should be led into company at proper seasons, should be carried abroad to see the fields, and the woods, and the rivers, the buildings, towns, and cities, distant from their own dwelling ; they should be entertained with the sight of strange birds, beasts, fishes, insects, vegetables, and productions both of nature and of art of every kind, whether they are the products of their own or foreign nations : and in due time, where Providence gives opportunity, they may travel under a wise inspector or tutor to different parts of the world for the same end, that they may bring home treasures of useful knowledge.

III. Among all these observations write down what is most remarkable and uncommon : reserve these remarks in store for proper occasions, and at proper seasons take a review of them. Such a practice will give you a habit of useful thinking ; this will secure the workings of your soul from running to waste ; and by this means even your looser moments will turn to happy account both here and hereafter.

And whatever useful observations have been made, let them be at least some part of the subject of your conversation among your friends at next meeting.

Let the circumstances or situation in life be what or where they will, a man should never neglect this improvement which may be derived from observation. Let him travel for his own humor as a traveler, or pursue

his diversions in what part of the world he pleases as a gentleman : let prosperous or adverse fortune call him to the most distant parts of the globe ; still let him carry on his knowledge and the improvement of his soul by wise observations. In due time, by this means, he may render himself some way useful to the societies of mankind.

IV. Let us keep our minds as free as possible from passions and prejudices ; for these will give a wrong turn to our observations both on persons and things. The eyes of a man in the jaundice make yellow observations on every thing ; and the soul, tintured with any passion or prejudice, diffuses a false color over the real appearance of things, and disguises many of the common occurrences of life : it never beholds things in a true light, nor suffers them to appear as they are. Whensoever, therefore, you would make proper observations, let self, with all its influences, stand aside as far as possible ; abstract your own interest and your own concern from them, and bid all friendships and enmities stand aloof and keep out of the way, in the observations that you make relating to persons and things.

If this rule were well obeyed, we should be much better guarded against those common pieces of misconduct in the observations of men, viz : the false judgments of pride and envy. How ready is envy to mingle with the notices which we take of other persons. How often is mankind prone to put an ill sense upon the action of their neighbors, to take a survey of them in an evil position and in an unhappy light ! And by this means we form a worse opinion of our neighbors than they deserve ; while at the same time pride and self-flattery tempt us to make unjust observations on ourselves in our own favor. In all the favorable judgments we pass concerning ourselves, we should allow a little abatement on this account.

V. In making your observations on persons, take care of indulging that busy curiosity which is ever inquiring into private and domestic affairs, with an endless itch of learning the secret history of families. It is but seldom that such a prying curiosity attains any valuable ends : it often begets suspicions, jealousies, and disturbances in households, and it is a frequent temptation to persons to defame their neighbors : some persons can not help telling what they know : a busybody is most liable to become a tattler upon every occasion.

VI. Let your observation, even of persons and their conduct be chiefly designed in order to lead you to a better acquaintance with things, particularly with human nature ; and to inform you what to imitate and what to avoid, rather than to furnish out matter for the evil passions of the mind, or the impertinencies of discourse and reproaches of the tongue.

VII. Though it may be proper sometimes to make your observations concerning persons as well as things the subject of your discourse in learned or useful conversations, yet what remarks you make on particular persons, particularly to their disadvantage, should for the most part lie hid in your own breast, till some just and apparent occasion, some necessary call of Providence, leads you to speak to them.

If the character or conduct which you observe be greatly culpable, it should so much the less be published. You may treasure up such remarks of the follies, indecencies, or vices of your neighbors as may be a constant guard against your practice of the same, without exposing the reputation of your neighbor on that account. It is a good old rule, that our conversation should rather be laid out on things than on persons ; and this rule should generally be observed, unless names be concealed, wheresoever the faults or follies of mankind are our present theme.

VIII. Be not too hasty to erect general theories from a few particular observations, appearances, or experiments. This is what the logicians call a false induction. When general observations are drawn from so many particulars as to become certain and indubitable, these are jewels of knowledge, comprehending great treasure in little room : but they are therefore to be made with the greater care and caution, lest errors become large and diffusive, if we should mistake in these general notions.

A hasty determination of some universal principles, without a due survey of all the particular cases which may be included in them, is the way to lay a trap for our own understandings, in their pursuit of any subject, and we shall often be taken captives into mistake and falsehood.

Niveo in his youth observed, that on three Christmas Days together there fell a good quantity of snow, and now hath writ it down in his almanac, as a part of his wise remarks on the weather, that it will always snow at Christmas. Euron, a young lad, took notice ten times, that there was a sharp frost when the wind was in the north-east; therefore, in the middle of the last July, he almost expected it should freeze, because the weather-cocks showed him a north-east wind ; and he was still more disappointed, when he found it a very sultry season.

CHAPTER IV.

OF BOOKS AND READING.

I. The world is full of Books ; but there are multitudes which are so ill written, they were never worth any man's reading ; and there are thousands more which may be good in their kind, yet are worth nothing when the month or year, or occasion is past for which they were written. Others may be valuable in themselves for some special purpose, or in some peculiar science, but are not fit to be perused by any but those who are en-

gaged in that particular science or business. To what use is it for a divine or a physician, or a tradesman, to read over the huge volumes of reports of judged cases in the law? or for a lawyer to learn Hebrew and read the Rabbins? It is of vast advantage for improvement of knowledge, and saving time, for a young man to have the most proper books for his reading recommended by a judicious friend.

II. Books of importance of any kind, and especially complete treatises on any subject, should be first read in a more general and cursory manner, to learn a little what the treatise promises, and what you may expect from the writer's manner and skill. And for this end I would advise always that the preface be read and a survey taken of the table of contents, if there be one, before the survey of the book. By this means you will not only be better fitted to give the book the first reading, but you will be much assisted in your second perusal of it, which should be done with greater attention and deliberation, and you will learn with more ease and readiness what the author pretends to teach. In your reading, mark what is new or unknown to you before, and review those chapters, pages, or paragraphs. Unless a reader has an uncommon and most retentive memory, I may venture to affirm, that there is scarce any book or chapter worth reading once, that is not worthy of a second perusal. At least take a careful review of all the lines or paragraphs which you marked, and make a recollection of the sections which you thought truly valuable.

There is another reason also why I would choose to take a superficial and cursory survey of a book, before I sit down to read it and dwell upon it with studious attention; and that is, that there may be several difficulties in it which we can not easily understand and con-

quer at the first reading, for want of a fuller comprehension of the author's whole scheme. And therefore in such treatises, we should not stay till we master every difficulty at the first perusal ; for perhaps many of these would appear to be solved when we have proceeded farther in that book, or would vanish of themselves upon a second reading.

III. If three or four persons agreed to read the same book, and each brings his own remarks upon it, at some set hours appointed for conversation, and they communicate mutually their sentiments on the subject and debate about it in a friendly manner, this practice will render the reading of any author more abundantly beneficial to any one of them.

IV. If several persons engaged in the same study, take into their hands distinct treatises on one subject, and appoint a season of communication once a week, they may inform each other in a brief manner concerning the sense, sentiments, and methods of those several authors, and thereby promote each other's improvement, either by recommending the perusal of the same book to their companions, or perhaps by satisfying their inquiries concerning it by conversation, without every one's perusing it.

V. Remember that **your business** in reading or in conversation, especially on subjects of natural, moral, or divine science, is not merely to know the opinion of the author or speaker, for this is but the mere knowledge of history ; but your chief business is to consider whether their opinions are right or not, and to improve your own solid knowledge on that subject by meditation on the themes of their writing or discourse. Deal freely with every author you read, and yield up your assent only to evidence and just reasoning on the subject.

Here I would be understood to speak only of human authors, and not of the sacred and inspired writings. In these our business is only to find out the true sense, and understand the true meaning of the paragraph and page, and our assent then is bound to follow when we are before satisfied that the writing is divine. Yet I might add also, that even this is sufficient evidence to demand our assent.

But in the composures of men, remember you are a man as well as they ; and it is not their reason, but your own that is given to guide you when you arrive at years of discretion, of manly age and judgment.

VI. Let this therefore be your practice, especially after you have gone through one course of any science in your academical studies ; if a writer on that subject maintains the same sentiments as you do, yet if he does not explain his ideas or prove his positions well, mark the faults or defects, and endeavor to do better, either in the margin of your book, or rather in some papers of your own, or at least let it be done in your private meditations. As for instance :

Where the author is obscure, enlighten him : where he is imperfect, supply his deficiencies : where he is too brief and concise, amplify a little, and set his notions in a fairer view : where he is redundant, mark those paragraphs to be retrenched : when he trifles and grows impertinent, abandon those passages or pages : when he argues, observe whether his reasons be conclusive : if the conclusion be true, and yet the argument weak, endeavor to confirm it by better proofs : where he derives or infers any proposition darkly and doubtfully, make the justice of the inference appear, and make further inferences or corollaries, if such occur to your mind : where you suppose he is in a mistake, propose your objections and correct his sentiments : what he

writes so well as to approve itself of your judgment, both as just and useful, treasure it up in your memory, and count it a part of your intellectual gains.

Note, many of these same directions, which I have now given, may be practiced with regard to conversation as well as reading, in order to render it useful in the most extensive and lasting manner.

VII. Other things also of the like nature may be usefully practiced with regard to the authors which you read, viz.: If the method of a book be irregular, reduce it into form, by a little analysis of your own, or by hints in the margin: If those things are heaped together, which should be separated, you may wisely distinguish and divide them: if several things relating to the same subject are scattered up and down separately through the treatise, you may bring them all to one view by references; or if the matter of a book be really valuable and deserving, you may throw it into a better method, reduce it to a more logical scheme, or abridge it into a lesser form: all these practices will have a tendency both to advance your skill in logic and method, to improve your judgment in general, and to give you a fuller survey of that subject in particular. When you have finished the treatise with all your observations upon it, recollect and determine what real improvements you have made by reading that author.

VIII. If a book has no index to it, or good table of contents, it is very useful to make one as you are reading it: not with that exactness as to include the sense of every page and paragraph, which should be done if you designed to print it; but it is sufficient in your index to take notice only of those parts of the book which are new to you, or which you think well written and well worthy of your own remembrance or review.

Shall I be so free as to assure my younger friends,

from my own experience, that **these methods** of reading will cost some pains in the first year of your study, and especially in the first authors which you peruse in any science, or on any particular subject: but the profit will richly compensate the pains. And in the following years of life, after you have read a few valuable books on any special subject in this manner, it will be easy to read others of the same kind, because you will not usually find very much new matter in them which you have not already examined.

If the writer be remarkable for any peculiar excellences or defects in his style or manner of writing, make just observations upon this also; and whatsoever ornaments you find there, or whatsoever blemishes occur in the language or manner of the writer, you may make just remarks upon them. And remember that one book read over in this manner, with all this laborious meditation, will tend more to enrich your understanding, than the skimming over the surface of twenty authors.

IX. By perusing books in the manner I have described, you will make all your reading subservient not only to the enlargement of your treasures of knowledge, but also to the improvement of your reasoning powers.

There are many who read with constancy and diligence, and yet make no advances in true knowledge by it. They are delighted with the notions which they read or hear, as they would be with stories that are told; but they do not weigh them in their minds as in a just balance, in order to determine their truth or falsehood; they make no observations upon them, or inferences from them. Perhaps their eyes slide over the pages, or the words slide over their ears, and vanish like a rhapsody of evening tales, or the shadows of a cloud flying over a green field in a summer's day.

Or if they review them sufficiently to fix them in their

remembrance, it is merely with a design to tell the tale over again, and show what men of learning they are. Thus they dream out their days in a course of reading, without real advantage. As a man may be eating all day, and, for want of digestion is never nourished; so those endless readers may cram themselves in vain with intellectual food, and without real improvement of their minds, for want of digesting it by proper reflections.

X. Be diligent therefore in observing these directions. Enter into the sense and arguments of the authors you read; examine all their proofs, and then judge of the truth or falsehood of their opinions; and thereby you shall not only gain a rich increase of your understanding, by those truths which the author teaches, when you see them well supported, but you shall acquire also by degrees a habit of judging justly and of reasoning well, in imitation of the good writer whose works you peruse.

This is laborious indeed, and the mind is backward to undergo the fatigue of weighing every argument and tracing every thing to its original. It is much less labor to take all things upon trust: believing is much easier than arguing.

But when Studentio had once persuaded his mind to tie itself down to this method which I have prescribed, he sensibly gained an admirable facility to read, and judge of what he read by his daily practice of it, and the man made large advances in the pursuit of truth; while Plumbinus and Plumeo made less progress in knowledge, though they had read over more folios. Plumeo skimmed over the pages like a swallow over the flowery meads in May. Plumbinus read every line and syllable, but did not give himself the trouble of thinking and judging about them. They both could boast in company of their great reading, for they knew more titles and pages than Studentio, but were far less acquainted with science.

I confess those whose reading is designed only to fit them for much talk and little knowledge, may content

themselves to run over their authors in such a sudden and trifling way; they may devour libraries in this manner, yet be poor reasoners at last; and have no solid wisdom or true learning. The traveler who walks on fair and softly in a course that points right, and examines every turning before he ventures upon it, will come sooner and safer to his journey's end, than he who runs through every lane he meets, though he gallops full speed all the day. **The man of much reading and a large retentive memory, but without meditation,** may become, in the sense of the world, a knowing man; and if he converse much with the ancients, he may attain the fame of learning too; but he **spends his days afar off from wisdom and true judgment,** and possesses very little of the substantial riches of the mind.

XI. Never apply yourselves to read any human author with a determination beforehand either for or against him, or with a settled resolution to believe or disbelieve, to confirm or to oppose, whatsoever he saith; but always read with a design to lay your mind open to truth, and to embrace it wheresoever you find it, as well as to reject every falsehood, though it appear under ever so fair a disguise. How unhappy are those men who seldom take an author into their hands but they have determined before they begin whether they will like or dislike him! They have got some notion of his name, his character, his party, or his principles, by general conversation, or perhaps by some slight view of a few pages; and having all their own opinions adjusted beforehand, they read all that he writes with a prepossession either for or against him. Unhappy those who hunt and purvey for a party, and scrape together out of every author all those things, and those only, which favor their own tenets, while they despise and neglect all the rest!

XII. Yet take this caution. I would not be under-

stood here, as though I persuaded a person to live without any settled principles at all, by which to judge of men, and books, and things: or that I would keep a man always doubting about his foundations. The chief things that I design in this advice, are these three:

1. That after our most necessary and important principles of science, prudence, and religion, are settled upon good grounds, with regard to our present conduct and our future hopes, *we should read with a just freedom of thought* all those books which treat of such subjects as may admit of doubt and reasonable dispute. Nor should any of our opinions be so resolved upon, especially in younger years, as never to hear or to bear an opposition to them.

2. When we peruse those authors who defend our own settled sentiments, we should not take all their arguments for just and solid; but *we should make a wise distinction between the corn and the chaff*, between solid reasoning and the mere superficial colors of it; nor should we readily swallow down all their lesser opinions because we agree with them in the greater.

3. That when we read those authors which oppose our most certain and established principles, we should be ready to receive any informations from them in other points, and not abandon at once every thing they say, though we are well fixed in our opposition to their main point of arguing.

. Fas est ab hoste doceri.

— *Virg.*

Seize upon truth where'er 'tis found,
Amongst your friends, amongst your foes,
On Christian or on heathen ground;
The flower's divine where'er it grows:
Neglect the prickles and assume the rose.

XIII. What I have said hitherto on this subject, relating to books and reading, must be chiefly understood of that sort of books, and those hours of our read-

ing and study, whereby we design to improve the intellectual powers of the mind with natural, moral, or divine knowledge. As for those treatises which are written to direct or to enforce and persuade our practice, there is one thing further necessary; and that is, that **when our consciences are convinced** that these rules of prudence or duty belong to us, and require our conformity to them, **we should then call ourselves to account**, and inquire seriously whether we have put them in practice or not; we should dwell upon the arguments, and impress the motives and methods of persuasion upon our own hearts, till we feel the force and power of them inclining us to the practice of the things which are there recommended.

If folly or vice be represented in its open colors, or its secret disguises, let us search our hearts, and review our lives, and inquire how far we are criminal; nor should we ever think we have done with the treatise while we feel ourselves in sorrow for our past misconduct, and aspiring after a victory over those vices, or till we find a cure of those follies begun to be wrought upon our souls.

In all our studies and pursuits of knowledge, let us remember that virtue and vice, sin and holiness, and the conformation of our hearts and lives to the duties of true religion and morality, are things of far more consequence than all the furniture of our understanding, and the richest treasures of more speculative knowledge; and that, because they have a more immediate and effectual influence upon our eternal felicity or eternal sorrow.

XIV. There is yet **another sort of books**, of which it is proper I should say something, while I am treating on this subject; and these are history, poesy, travels; books of diversion or amusement: among which we may reckon also little common pamphlets; newspapers, or such like: for many of these **I confess once reading may be sufficient**, where there is a tolerable good memory.

Or when several persons are in company, and one reads to the rest such a sort of writing, once hearing may be sufficient, provided that every one be so attentive, and so free, as to make their occasional remarks on such lines or sentences, such periods or paragraphs, as in their opinion deserve it. Now all those paragraphs or sentiments deserve a remark, which are new and uncommon, are noble and excellent for the matter of them, are strong and convincing for the argument contained in them, are beautiful and elegant for the language or the manner, or any way worthy of a second rehearsal; and at the request of any of the company, let those paragraphs be read over again.

Such parts also of these writings as may happen to be remarkably stupid or silly, false or mistaken, should become subjects of an occasional criticism, made by some of the company; and this may give occasion to the repetition of them, for the confirmation of the censure, for amusement or diversion.

Still let it be remembered, that where the historical narration is of considerable moment, where the poesy, oratory, etc., shine with some degrees of perfection and glory, a single reading is neither sufficient to satisfy a mind that has a true taste for this sort of writings; nor can we make the fullest and best improvement of them without proper reviews, and that in our retirement as well as in company. Who is there that has any taste for polite writings that would be sufficiently satisfied with hearing the beautiful pages of Steele or Addison, the admirable descriptions of Virgil or Milton, or some of the finest poems of Pope, Young, or Dryden, once read over to them, and then lay them by for ever?

XV. Among these writings of the latter kind we may justly reckon short miscellaneous essays on all manner of subjects; such as the *Occasional Papers*, the *Tatlers*,

the *Spectators*, and some other books that have been compiled out of the weekly or daily products of the press, wherein are contained a great number of bright thoughts, ingenious remarks, and admirable observations, which have had a considerable share in furnishing the present age with knowledge and politeness.

I wish every paper among these writings could have been recommended both as innocent and useful. I wish every unseemly idea and wanton expression had been banished from amongst them, and every trifling page had been excluded from the company of the rest when they had been bound up in volumes: but it is not to be expected, in so imperfect a state, that every page or piece of such mixed public papers should be entirely blameless and laudable. Yet in the main it must be confessed, there is so much virtue, prudence, ingenuity, and goodness in them, especially in eight volumes of *Spectators*, there is such a reverence for things sacred, so many valuable remarks for our conduct in life, that they are not improper to lie in parlors, or summer-houses, or places of usual residence, to entertain our thoughts in any moments of leisure or vacant hours that occur. There is such a discovery of the follies, iniquities, and fashionable vices of mankind contained in them, that we may learn much of the humors and madneses of the age and the public world, in our own solitary retirement, without the danger of frequenting vicious company, or receiving the mortal infection.

XVI. Among other books which are proper and requisite, in order to prove our knowledge in general, or our acquaintance with any particular science, it is necessary that we should be furnished with vocabularies and dictionaries of several sorts, viz., of common words, idioms, and phrases, in order to explain their sense; of technical words or the terms of art, to show their use in arts and sciences; of names of men, countries, towns, rivers, etc., which are called historical and geographical dictionaries, etc. These are to be consulted and used upon every occasion; and never let an unknown word pass in your reading without seeking for its sense and meaning in some of these writers.

If such books are not at hand, you must supply the

want of them as well as you can, by consulting such as can inform you: and it is useful to note down the matters of doubt and inquiry in some pocket-book, and take the first opportunity to get them resolved, either by persons or books, when we meet with them.

XVII. Be not satisfied with a mere knowledge of the best authors that treat of any subject, instead of acquainting ourselves thoroughly with the subject itself. There is many a young student that is fond of enlarging his knowledge of books, and he contents himself with the notice he has of their title-page, which is the attainment of a bookseller rather than of a scholar. Such persons are under a great temptation to practice **these two follies**. (1.) To heap up a great number of books at a greater expense than most of them can bear, and to furnish their libraries infinitely better than their understanding. And (2) when they have gotten such rich treasures of knowledge upon their shelves, they imagine themselves men of learning and take a pride in talking of the names of famous authors, and the subjects of which they treat, without any real improvement of their own minds in true science or wisdom. At best their learning reaches no farther than the indexes and tables of contents, while they know not how to judge or reason concerning the matters contained in those authors.

And indeed how many volumes of learning soever a man possesses, he is still deplorably poor in his understanding, till he has made those several parts of learning his own property by reading and reasoning, by judging for himself and remembering what he has read.

CHAPTER V.

JUDGMENT OF BOOKS.

I. If we would form a judgment of a book which we have not seen before, the first thing that offers is the

title-page, and we may sometimes guess a little at the import and design of a book thereby ; though it must be confessed that titles are often deceitful and promise more than the book performs. The author's name, if it be known in the world, may help us to conjecture at the performance a little more, and lead us to guess in what manner it is done. A perusal of the preface or introduction (which I before recommended) may further assist our judgment ; and if there be an index of the contents, it will give us still some advancing light.

If we have not leisure or inclination to read over the book itself regularly, then by the titles of chapters we may be directed to peruse several particular chapters or sections, and observe whether there be anything valuable or important in them. We shall find hereby whether the author explains his ideas clearly, whether he reasons strongly, whether he methodizes well, whether his thought and sense be manly, and his manner polite ; or, on the other hand, whether he be obscure, weak, trifling, and confused ; or, finally, whether the matter may not be solid and substantial, though the style and manner be rude and disagreeable.

II. By having run through several chapters and sections in this manner, we may generally judge whether the treatise be worth a complete perusal or not. But if by such an occasional survey of some chapters our expectation be utterly discouraged, we may well lay aside that book ; for there is great probability he can be but an indifferent writer on that subject, if he affords but one prize to divers blanks, and it may be some downright blots too. The piece can hardly be valuable if in seven or eight chapters which we peruse there be but little truth, evidence, force of reasoning, beauty, ingenuity of thought, etc., mingled with much error, ignorance, impertinence, dullness, mean and common

thoughts, inaccuracy, sophistry, railing, etc. Life is too short, and time is too precious, to read every new book quite over, in order to find that it is not worth the reading.

III. There are **some general mistakes** which persons are frequently guilty of in passing a judgment on the books which they read.

One is this : when a treatise is written but tolerably well, we are ready to pass a favorable judgment of it and sometimes to exalt its character far beyond its merit, if it agree with our own principles and support the opinions of our party. On the other hand, if the author be of different sentiments and espouse contrary principles, we can find neither wit nor reason, good sense, nor good language in it ; whereas, alas ! if our opinions of things were certain and infallible truth, yet a silly author may draw his pen in the defense of them, and he may attack even gross errors with feeble and ridiculous arguments. Truth in this world is not always attended and supported by the wisest and safest methods ; and **error**, though it can never be maintained by just reasoning, yet may be artfully covered and defended. An ingenious writer may put excellent colors upon his own mistakes. Books are never to be judged of merely by their subject, or the opinion they represent, but by the justness of their sentiment, the beauty of their manner, the force of their expression, or the strength of reason, and the weight of just and proper argument which appears in them.

IV. Another mistake which **some persons** fall into is this : when they read a treatise on a subject with which they have but little acquaintance, they find almost every thing new and strange to them : their understandings are greatly entertained and improved by the occurrence of many things which were unknown to them

before; they admire the treatise and commend the author at once; whereas, if they had attained a good degree of skill in that science, perhaps they would find that the author had written very poorly, that neither his sense nor his method was just and proper, and that he had nothing in him but what was very common or trivial in his discourses on that subject.

Hence it comes to pass that Cario and Faber, who were both bred up to labor and unacquainted with the sciences, shall admire one of the weekly papers, or a little pamphlet that talks pertly on some critical or learned theme, because the matter is all strange and new to them, and they join to extol the writer to the skies; while at the same time, persons well skilled in these different subjects, hear the impertinent tattle with a just contempt: for they know how weak and awkward many of these diminutive discourses are; and that those very papers of science, politics, or trade, which were so much admired by the ignorant, are perhaps but very mean performances; though it must also be confessed there are some excellent essays in those papers, and that upon science as well as trade.

V. But there is a danger of mistake in our judgment of books, on the other hand also: for when we have made ourselves masters of any particular theme of knowledge, and surveyed it long on all sides, there is perhaps scarcely any writer on that subject who much entertains and pleases us afterwards, because we find little or nothing new in him; and yet, in a true judgment, perhaps his sentiments are most proper and just, his explication clear, and his reasoning strong, and all the parts of the discourse are well connected and set in a happy light; but we knew most of those things before, and therefore they strike us not, and we are in danger of discommending them.

Thus the learned and the unlearned have their several distinct dangers and prejudices ready to attend them in their judgment of the writings of men. These which I have mentioned are a specimen of them, and indeed but a mere specimen; for the prejudices that warp our judgment aside from truth are almost infinite and endless.

VI. Yet I can not forbear to point out two or three more of these follies, that I may attempt something towards the correction of them, or at least to guard others against them.

There are some persons of a forward and lively temper, and who are fond to intermeddle with all appearances of knowledge, will give their judgment on a book as soon as the title of it is mentioned, for they would not willingly seem ignorant of any thing that others know. And especially if they happen to have any superior character or possessions of this world, they fancy they have a right to talk freely upon every thing that stirs or appears, though they have no other pretense to this freedom.

Divito is worth forty thousand pounds. Politulus is a fine young gentleman, who sparkles in all the shining things of dress and equipage. Aulinus is a small attendant on a minister of state, and is at court almost every day. These three happened to meet on a visit where an excellent book of warm and refined devotions lay on the window. What dull stuff is here! said Divito; I never read so much nonsense in one page in my life; nor would I give a shilling for a thousand such treatises. Aulinus, though a courtier, had not used to speak roughly, yet would not allow there was a line of good sense in the book, and pronounced him a madman that wrote it in his secret retirement, and declared him a fool that published it after his death. Politulus had more manners than to differ from men of such rank and character, and therefore he sneered at the devout expressions as he heard them read, and made the divine treatise a matter of scorn and ridicule; and yet it was well known, that neither this fine gentleman, nor the courtier, nor the man of wealth, had a grain of devotion in them beyond their horses that waited at the door with their gilded chariots. But this is the way of the world; blind men will talk of the beauty of colors, and of the harmony or disproportion of figures in painting; the deaf will prate of discords in music; and those who have nothing to do with religion will arraign the best treatise on divine subjects, though they do not understand the very language of the Scriptures, nor the common terms or phrases used in Christianity.

VII. I might here name another sort of judges, who will set themselves up to decide in favor of an author,

or will pronounce him a mere blunderer, according to the company they have kept and the judgment they have heard passed upon a book by others of their own stamp or size, though they have no knowledge or taste of the subject themselves. These, with a fluent and voluble tongue, become mere echoes of the praises or censures of other men.

Sonillus happened to be in the room where the three gentlemen just mentioned gave out their thoughts so freely upon an admirable book of devotion : and two days afterwards he met with some friends of his, where this book was the subject of conversation and praise. Sonillus wondered at their dullness, and repeated the jests which he had heard cast upon the weakness of the author. His knowledge of the book, and his decision upon it, was all from hearsay, for he had never seen it ; and if he had read it through, he had no manner of right to judge about the things of religion, having no more knowledge or taste of any thing of inward piety than a hedgehog or a bear has of politeness.

When I had written these remarks, Probus, who knew all the four gentlemen, wished they might have an opportunity to read their own character as it is represented here. Alas ! Probus, I fear it would do them very little good, though it may guard others against their folly ; for there is never a one of them would find their own name in these characters if they read them, though all their acquaintance would acknowledge the features immediately and see the persons almost alive in the picture.

VIII. There is yet another mischievous principle which prevails among some persons in passing a judgment on the writings of others, and that is, when from the secret stimulations of vanity, pride, or envy, they despise a valuable book, and throw contempt upon it by wholesale : and if you ask them the reason of their severe censure, they will tell you, perhaps, they have found a mistake or two in it, or there are a few sentiments or expressions not suited to their tooth and humor.

Bavis cries down an admirable treatise of philosophy and says there is atheism in it, because there are a few sentiments that seem to suppose brutes to be mere machines. Under the same influence, Momus will not allow *Paradise Lost* to be a

good poem, because he has read some flat and heavy lines in it; and he thought Milton had too much honor done him. It is a paltry humor that inclines a man to rail at any human performance, because it is not absolutely perfect.

Sunt delicta tamen quibus ignovisse velimus,
 Nam neque chorda sonum reddit quem vult manus et mens,
 Nec semper feriet quodcumque minabitur arcus :
 Verum ubi plura nitent in carmine, non ego paucis
 Offendar maculis, quas aut incuria fudit,
 Aut humana parum cavit natura. —*Hor. de Art. Poet.*

Thus Englished :

Be not too rigidly censorious :
 A string may jar in the best master's hand,
 And the most skillful archer miss his aim.
 So in a poem elegantly writ,
 I will not quarrel with a small mistake,
 Such as our nature's frailty may excuse.

—*Roscommon.*

This noble translator of Horace, whom I here cite, has a very honorable opinion of Homer in the main; yet he allows him to be justly censured for some grosser spots and blemishes in him :

For who without aversion ever looked
 On holy garbidge, though by Homer cooked ;
 Whose railing heroes, and whose wounded gods,
 Make some suspect he snores as well as nods.

Such wise and just distinctions ought to be made when we pass a judgment on mortal things; but **Envy condemns by wholesale.** Envy is a cursed plant; some fibers of it are rooted in almost every man's nature, and it works in a sly and imperceptible manner, and that even in some persons who in the main are men of wisdom and piety. They know not how to bear the praises that are given to an ingenious author, especially if he be living, and of their profession; and therefore they will, if possible, find some blemish in his writings, that they may nibble and bark at it. They will endeavor to diminish the honor of the best treatise that has been written on any subject, and to render it useless by their censures,

rather than suffer their envy to lie asleep and the little mistakes of that author to pass unexposed. Perhaps they will commend the work in general with a pretended air of candor; but pass so many sly and invidious remarks upon it afterwards, as shall effectually destroy all their cold and formal praises.

IX. When a person feels any thing of this invidious humor working in him, he may by the following consideration attempt the correction of it. Let him think with himself how many are the beauties of such an author whom he censures, in comparison with his blemishes, and remember that it is a much more honorable and good-natured thing to find out peculiar beauties than faults; true and undisguised candor is a much more amiable and divine talent than accusation. Let him reflect again, what an easy matter it is to find a mistake in all human authors, who are necessarily fallible and imperfect.

I confess, where an author sets up himself to ridicule divine writers, and things sacred, and yet assumes an air of sovereignty and dictatorship, to exalt and almost deify all the pagan ancients, and cast his scorn upon all the moderns, especially if they do but savor of miracles and the Gospel; it is fit the admirers of this author should know, that nature and these ancients are not the same, though some writers unite them. Reason and nature never made these ancient heathens their standard, either of art or genius, of writing or heroism. Sir Richard Steele, in his little essay, called the *Christian Hero*, has shown our Saviour and St. Paul in a more glorious and transcendent light than a Virgil or Homer could do for their Achilles, Ulysses, or Æneas: and I am persuaded, if Moses and David had not been inspired writers, these very men would have ranked them at least with Herodotus, if not given them the superior place.

But where an author has many beauties consistent with virtue, piety, and truth, let not little critics exalt themselves and shower down their ill nature upon him without bounds or measure; but rather stretch their own powers of soul till they write a treatise superior to that which they condemn. This is the noblest and surest manner of suppressing what they censure.

A little wit or a little learning, with a good degree of vanity and ill nature, will teach a man to pour out whole pages of remark and reproach upon one real or fancied mistake of a great and good author : and this may be dressed up by the same talents and made entertaining enough to the world, which loves reproach and scandal : but if the remarker would but once make this attempt, and try to outshine the author by writing a better book on the same subject, he would soon be convinced of his own insufficiency, and perhaps might learn to judge more justly and favorably of the performance of other men. A cobbler or a shoemaker may find some little fault with the latchet of a shoe that an Apelles had painted, and perhaps with justice too, when the whole figure and portraiture is such as none but Apelles could paint. Every poor low genius may cavil at what the richest and the noblest hath performed ; but it is a sign of envy and malice, added to the littleness and poverty of genius, when such a cavil becomes a sufficient reason to pronounce at once against a bright author and a whole valuable treatise.

X. Another, and that a very frequent fault in passing a judgment upon books, is this, that persons spread the same praises or the same reproaches over a whole treatise, and all the chapters in it, which are due only to some of them. They judge as it were by wholesale, without making a due distinction between the several parts or sections of the performance ; and this is ready to lead those who hear them talk into a dangerous mistake.

Milton is a noble genius, and the world agrees to confess it : his poem of *Paradise Lost* is a glorious performance and rivals the most famous pieces of antiquity ; but that reader must be deeply prejudiced in favor of the poet, who can imagine him equal to himself through all that work. Neither the sublime sentiments, nor dignity of numbers, nor force or beauty of expression, are equally maintained, even in all those parts

which require grandeur or beauty, force or harmony. I can not but consent to Mr. Dryden's opinion, though I will not use his words, that for some scores of lines together there is a coldness and flatness, and almost a perfect absence of that spirit of poesy which breathes, and lives, and flames in other pages.

XI. When you hear any person pretending to give his judgment of a book, consider with yourself whether he be a **capable judge**, or whether he may not lie under some unhappy **bias or prejudice**, for or against it, or whether he has made a sufficient inquiry to form his justest sentiments upon it.

Though he be a man of good sense, yet he is incapable of passing a true judgment of a particular book, if he be not well acquainted with the subject of which it treats, and the manner in which it is written, be it verse or prose : or if he hath not had an opportunity or leisure to look sufficiently into the writing itself.

Again, though he be ever so capable of judging on all other accounts, by the knowledge of the subject, and of the book itself, yet you are to consider also whether there be any thing in the author, in his manner, in his language, in his opinions, and his particular party, which may warp the sentiments of him that judgeth, to think well or ill of the treatise, and to pass too favorable or too severe a sentence concerning it.

If you find that he is either an unfit judge because of his ignorance or because of his prejudices, his judgment of that book should go for nothing.

CHAPTER VI.

OF LIVING INSTRUCTIONS AND LECTURES, OF TEACHERS AND LEARNERS.

I. THERE are few persons of so penetrating a genius, and so just a judgment, as to be **capable of learning the**

arts and sciences without the assistance of teachers. There is scarce any science so safely and so speedily learned, even by the noblest genius and the best books, without a tutor. His assistance is absolutely necessary for most persons, and it is very useful for all beginners. Books are a sort of dumb teachers ; they point out the way to learning ; but if we labor under any doubt or mistake, they can not answer sudden questions, or explain present doubts and difficulties : this is properly the work of a living instructor.

II. There are very few tutors who are sufficiently furnished with such universal learning, as to sustain all the parts and provinces of instruction. The sciences are numerous, and many of them lie far wide of each other ; and it is best to enjoy the instructions of two or three tutors at least, in order to run through the whole encyclopædia, or circle of sciences, where it may be obtained ; then we may expect that each will teach the few parts of learning which are committed to his care in greater perfection. But where this advantage can not be had with convenience, one great man must supply the place of two or three common instructors.

III. It is not sufficient that instructors be competently skillful in those sciences which they profess and teach ; but they should have skill also in the art or method of teaching, and patience in the practice of it.

It is a great unhappiness indeed, when persons by a spirit of party, or faction, or interest, or by purchase, are set up for tutors, who have neither due knowledge of science, nor skill in the way of communication. And, alas ! there are others who, with all their ignorance and insufficiency, have self-admiration and effrontery enough to set up themselves ; and the poor pupils fare accordingly and grow lean in their understandings.

And let it be observed also, there are some very

learned men, who know much themselves, but have not the talent of communicating their own knowledge; or else they are lazy and will take no pains at it. Either they have an obscure and perplexed way of talking, or they show their learning uselessly and make a long periphrasis on every word of the book they explain, or they can not condescend to young beginners, or they run presently into the elevated parts of the science, because it gives themselves greater pleasure, or they are soon angry and impatient, and can not bear with a few impertinent questions of a young, inquisitive, and sprightly genius; or else they skim over a science in a very slight and superficial survey, and never lead their disciples into the depths of it.

IV. A good tutor should have characters and qualifications very different from all these. He is such a one as both can and will apply himself with diligence and concern, and indefatigable patience, to effect what he undertakes; to teach his disciples and see that they learn; to adapt his way and method, as near as may be, to the various dispositions, as well as to the capacities of those whom he instructs, and to inquire often into their progress and improvement.

And he should take particular care of his own temper and conduct, that there be nothing in him or about him which may be of ill example; nothing that may savor of a haughty temper, or a mean and sordid spirit; nothing that may expose him to the aversion or to the contempt of his scholars, or create a prejudice in their minds against him and his instructions: but, if possible, he should have so much of a natural candor and sweetness mixed with all the improvements of learning, as might convey knowledge into the minds of his disciples with a sort of gentle insinuation and sovereign delight, and may tempt them into the highest improvements of

their reason by a resistless and insensible force. But I shall have occasion to say more on this subject, when I come to speak more directly of the methods of the communication of knowledge.

V. **The learner should attend with constancy and care** on all the instructions of his tutor ; and if he happens to be at any time unavoidably hindered, he must endeavor to retrieve the loss by double industry for time to come. He should always recollect and review his lectures, read over some other author or authors upon the same subject, confer upon it with his instructor, or with his associates, and write down the clearest result of his present thoughts, reasonings, and inquiries, which he may have recourse to hereafter, either to re-examine them and apply them to proper use, or to improve them farther to his own advantage.

VI. A student should never satisfy himself with bare attendance on the lectures of his tutor, unless he clearly takes up his sense and meaning, and understands the things which he teaches. **A young disciple should** behave himself so well as to gain the affection and ear of his instructor, that upon every occasion he may, with the utmost freedom, **ask questions**, and talk over his own sentiments, his doubts, and difficulties with him, and in an humble and modest manner desire the solution of them.

VII. **Let the learner endeavor to maintain an honorable opinion of his instructor**, and heedfully listen to his instructions, as one willing to be led by a more experienced guide ; and though he is not bound to fall in with every sentiment of his tutor, yet he should so far comply with him as to resolve upon a just consideration of the matter, and try and examine it thoroughly with an honest heart, before he presume to determine against him : and then it should be done with great

modesty, with an humble jealousy of himself, and apparent unwillingness to differ from his tutor, if the force of argument and truth did not constrain him.

VIII. It is a frequent and growing folly in our age, that **pert young disciples soon fancy themselves wiser than those who teach them**: at the first view, or upon a very little thought, they can discern the insignificancy, weakness, and mistake of what their teacher asserts. The youth of our day, by an early petulancy, and pretended liberty of thinking for themselves, dare reject at once, and that with a sort of scorn, all those sentiments and doctrines which their teachers have determined, perhaps, after long and repeated consideration, after years of mature study, careful observation, and much prudent experience.

IX. It is true teachers and masters are not infallible, nor are they always in the right; and it must be acknowledged, it is a matter of **some difficulty** for younger minds **to maintain a just and solemn veneration** for the authority and advice of their parents and the instructions of their tutors, and yet at the same time to secure to themselves **a just freedom in their own thoughts**. We are sometimes too ready to imbibe all their sentiments without examination, if we reverence and love them; or, on the other hand, if we take all freedom to contest their opinions, we are sometimes tempted to cast off that love and reverence for their persons which God and nature dictate. Youth is ever in danger of these two extremes.

X. But I think I may safely conclude thus: Though the authority of a teacher must not absolutely determine the judgment of his pupil, yet young and raw and unexperienced learners should pay all proper deference that can be to the instructions of their parents and teachers, short of absolute submission to their dictates.

Yet still we must maintain this, that they should **never** receive any opinion into their assent, whether it be conformable or contrary to the tutor's mind, **without** sufficient evidence of it first given to their own reasoning powers.

CHAPTER VII.

OF INQUIRING INTO THE SENSE AND MEANING OF ANY WRITER OR SPEAKER, AND ESPECIALLY THE SENSE OF THE SACRED WRITINGS.

It is a great unhappiness that there is such an ambiguity in words and forms of speech, that the same sentence may be drawn into different significations : whereby it comes to pass, that it is difficult sometimes for the reader exactly to hit upon the ideas which the writer or speaker had in his mind. Some of the best rules to direct us herein are such as these :

I. Be well acquainted with the tongue itself, or language, wherein the author's mind is expressed. Learn not only the true meaning of each word, but the sense which those words obtain when placed in such a particular situation and order. Acquaint yourself with the peculiar power and emphasis of the several modes of speech, and the various idioms of the tongue. The secondary ideas which custom has superadded to many words should also be known, as well as the particular and primary meaning of them, if we would understand any writer.

II. Consider the signification of those words and phrases, more especially in the same nation, or near the same age in which that writer lived, and in what sense they are used by authors of the same nation, opinion, sect, party, etc.

III. Compare the words and phrases in one place of an author, with the same or kindred words and phrases generally called parallel places; and as one explains another which is like it, so sometimes a contrary expression will explain its contrary.

Remember always that a writer best interprets himself; as we believe the Holy Spirit to be the supreme agent in the writings of the Old Testament and the New, he can best explain himself. Hence the theological rule arises, that Scripture is the best interpreter of Scripture; and therefore concordances, which show us parallel places, are of excellent use for interpretation.

IV. Consider the subject on which the author is treating, and by comparing other places where he treats of the same subject, you may learn his sense in the place which you are reading, though some of the terms which he uses in those two places may be very different.

And on the other hand, if the author uses the same words where the subject of which he treats is not just the same, you can not learn his sense by comparing those two places, though the mere words may seem to agree: for some authors, when they are treating of a quite different subject, may use perhaps the same words in a very different sense.

V. Observe the scope and design of the writer; inquire into his aim and end in that book, or section, or paragraph, which will help to explain particular sentences; for we suppose a wise and judicious writer directs his expressions generally toward his designed end.

VI. When an author speaks of any subject occasionally, let his sense be explained by those places where he treats of it distinctly and professedly: where he speaks of any subject in mystical or metaphorical terms, explain them by other places where he treats of

the same subjects in terms that are plain and literal: where he speaks in an oratorical, affecting, or persuasive way, let this be explained by other places where he treats of the same theme in a doctrinal or instructive way: where the author speaks more strictly and particularly on any theme, it will explain the more loose and general expressions: where he treats more largely, it will explain the shorter hints and brief intimations; and wheresoever he writes more obscurely, search out some more perspicuous passages in the same writer, by which to determine the sense of that obscure language.

VII. Consider not only the person who is introduced speaking, but the persons to whom the speech is directed, the circumstances of time and place, the temper and spirit of the speaker, as well as the temper and spirit of the hearers: in order to interpret Scripture well, there needs a good acquaintance with the Jewish customs, some knowledge of the ancient Roman and Greek times and manners, which sometimes strike a strange and surprising light upon passages which were before very obscure.

VIII. In particular propositions, the sense of an author may sometimes be known by the inferences which he draws from them; and all those senses may be excluded which will not allow of that inference.

Note. This rule indeed is not always certain, in reading and interpreting human authors, because they may mistake in drawing their inferences: but in explaining Scripture it is a sure rule; for the sacred and inspired writers always make just inferences from their own propositions. Yet even in them, we must take heed we do not mistake an allusion for an inference, which is many times introduced almost in the same manner.

IX. If it be a matter of controversy, the true sense of the author is sometimes known by the objections

that are brought against it. So we may be well assured, the apostle speaks against our "justification in the sight of God, by our own works of holiness," in the 3d, 4th, and 5th chapters of the Epistle to the Romans, because of the objection brought against him in the beginning of the 6th chapter, viz.: "What shall we say then? shall we continue in sin that grace may abound?" which objection could never have been raised, if he had been proving our justification by our own works of righteousness.

X. In matters of dispute, take heed of warping the sense of the writer to your own opinion, by any latent prejudices of self-love and party spirit. It is this reigning principle of prejudice and party, that has given such a variety of senses both to the sacred writers and others, which would never have come into the mind of the reader if he had labored under some such prepossessions.

XI. For the same reason take heed of the prejudices of passion, malice, envy, pride, or opposition to an author, whereby you may be easily tempted to put a false and invidious sense upon his words. Lay aside therefore a carping spirit, and read even an adversary with attention and diligence, with an honest design to find out his true meaning; do not snatch at little lapses and appearances of mistake, in opposition to his declared and avowed meaning; nor impute any sense or opinion to him which he denies to be his opinion, unless it be proved by the most plain and express language.

Lastly, remember that you treat every author, writer, or speaker, just as you yourselves would be willing to be treated by others.

CHAPTER VIII.

RULES OF IMPROVEMENT BY CONVERSATION.

I. IF we would improve our minds by conversation, it is a great happiness to be acquainted with persons wiser than ourselves. It is a piece of useful advice therefore to get the favor of their conversation frequently, as far as circumstances will allow: and if they happen to be a little reserved, use all obliging methods to draw out of them what may increase your own knowledge.

II. Whatsoever company you are in, waste not the time in trifle and impertinence. If you spend some hours amongst children, talk with them according to their capacity; mark the young buddings of infant reason; observe the different motions and distinct workings of the animal and the mind, as far as you can discern them; take notice by what degrees the little creature grows up to the use of his reasoning powers, and what early prejudices beset and endanger his understanding. By this means you will learn to address yourself to children for their benefit, and perhaps you may derive some useful philosophemes or theorems for your own entertainment.

III. If you happen to be in company with a merchant or a sailor, a farmer or a mechanic, a milk-maid or a spinster, lead them into a discourse of the matters of their own peculiar province or profession; for every one knows, or should know, their own business best. In this sense a common mechanic is wiser than the philosopher. By this means you may gain some improvement in knowledge from every one you meet.

IV. Confine not yourself always to one sort of company, or to persons of the same party or opinion, either in matters of learning, religion, or civil life, lest, if you should happen to be nursed up or educated in early mistake, you should be confirmed and established in the same mistake, by conversing only with persons of the same sentiments. A free and general **conversation with men of very various countries** and of different parties, opinions, and practices, so far as it may be done safely, **is of excellent use** to undeceive us in many wrong judgments which we may have framed, and to lead us into juster thoughts.

It is said, when the king of Siam, near China, first conversed with some European merchants, who sought the favor of trading on his coast, he inquired of them some of the common appearances of summer and winter in their country ; and when they told him of water growing so hard in their rivers, that men and horses and laden carriages passed over it, and that rain sometimes fell down as white and light as feathers, and sometimes almost as hard as stones, he would not believe a syllable they said ; for ice, snow, and hail, were names and things utterly unknown to him and to his subjects in that hot climate ; he renounced all traffic with such shameful liars, and would not suffer them to trade with his people.

V. In mixed company, among acquaintances and strangers endeavor to learn something from all. Be swift to hear ; but be cautious of your tongue, lest you betray your ignorance, and perhaps offend some of those who are present too. The Scripture severely censures those who speak evil of the things they know not. Acquaint yourself therefore sometimes with persons and parties which are far distant from your common life and customs : this is a way whereby you may form a wiser opinion of men and things. Prove all things, and hold fast that which is good, is a divine rule, and it comes from the Father of light and truth. But young persons should practice it indeed with due limitation, and under the eye of their elders.

VI. Be not frightened nor provoked at opinions different from your own. Some persons are so confident they are in the right, that they will not come within the hearing of any notions but their own: they canton out to themselves a little province in the intellectual world, where they fancy the light shines; and all the rest is in darkness. They never venture into the ocean of knowledge, nor survey the riches of other minds, which are as solid and as useful, and perhaps are finer gold than what they ever possessed. Let not men imagine there is no certain truth but in the sciences which they study, and amongst that party in which they were born and educated.

VII. Believe that it is possible to learn something from persons much below yourself. We are all shortsighted creatures; our views are also narrow and limited; we often see but one side of a matter, and do not extend our sight far and wide enough to reach every thing that has a connection with the thing we talk of; we see but in part, and know but in part; therefore it is no wonder we form not right conclusions; because we do not survey the whole of any subject or argument. Even the proudest admirer of his own parts might find it useful to consult with others, though of inferior capacity and penetration. We have a different prospect of the same thing (if I may so speak) according to the different positions of our understanding towards it: a weaker man may sometimes light on notions which have escaped a wiser, and which the wiser man might make a happy use of, if he would condescend to take notice of them.

VIII. It is of considerable advantage, when we are pursuing any difficult point of knowledge, to have a society of ingenious correspondents at hand, to whom we may propose it: for every man has something of a different genius and a various turn of mind, whereby

the subject proposed **will be shown** in all its lights, it will be represented in all its forms, and every side of it be turned to view, that a juster judgment may be framed.

IX. To make conversation more valuable and useful, whether it be in a designed or accidental visit, among persons of the same or of different sexes, after the necessary salutations are finished, and the stream of common talk begins to hesitate, or runs flat and low, let some one person **take a book** which may be agreeable to the whole company, and by common consent let him **read in it ten lines**, or a paragraph or two, or a few pages, till some word or sentence gives an occasion for any of the company to offer a thought or two relating to that subject: interruption of the reader should be no blame; for conversation is the business: whether it be to confirm what the author says, or to improve it, to enlarge upon or to correct it, to object against it, or to ask any question that is akin to it; and let every one that please add their opinion and promote the conversation.

Observe this rule in general, whensoever it lies in your power to **lead the conversation**, let it be directed to some **profitable point** of knowledge or practice, so far as may be done with decency; and let not the discourse and the hours be suffered to run loose without aim or design: and when a subject is started, pass not hastily to another, before you have brought the present theme of discourse to some tolerable issue, or a joint consent to drop it.

X. **Attend with sincere diligence**, while any one of the company is declaring his sense of the question proposed: **hear the argument with patience**, though it differ ever so much from your sentiments, for you yourself are very desirous to be heard with patience by

others who differ from you. Let not your thoughts be active and busy all the while to find out something to contradict, and by what means to oppose the speaker, especially in matters which are not brought to an issue. This is a frequent and unhappy temper and practice. You should rather be intent and solicitous to take up the mind and meaning of the speaker, zealous to seize and approve all that is true in his discourse; nor yet should you want courage to oppose where it is necessary; but let **your modesty** and patience, and a friendly temper, be as conspicuous as your zeal.

XI. When a man speaks with much freedom and ease, and gives his opinion in the plainest language of common sense, do not presently imagine you shall gain nothing by his company. Sometimes you will find a person who, in his conversation or his writings, delivers his thoughts in so plain, so easy, so familiar, and perspicuous a manner, that you both understand and assent to every thing he saith, as fast as you read or hear it: hereupon some hearers have been ready to conclude in haste, Surely this man saith none but common things; I knew as much before, or, I would have said all this myself. This is a frequent mistake.

Pellucido was a very great genius; when he spoke in the senate, he was wont to convey his ideas in so simple and happy a manner as to instruct and convince every hearer, and to enforce the conviction through the whole illustrious assembly; and that with so much evidence, that you would have been ready to wonder, that every one who spoke had not said the same things: but Pellucido was the only man that could do it; the only speaker who had attained this art and honor.

XII. If any thing seem dark in the discourse of your companion, so that you have not a clear idea of what is spoken, endeavor to obtain a clearer conception of it by a decent manner of inquiry. Do not charge the speaker with obscurity, either in his sense or his words,

but entreat his favor to relieve your own want of penetration, or to add an enlightening word or two, that you may take up his whole meaning.

If difficulties arise in your mind, and constrain your dissent to the things spoken, represent what objection some persons would be ready to make against the sentiments of the speaker, without telling him you oppose. This manner of address carries something more modest and obliging in it, than to appear to raise objections of your own by way of contradiction to him that spoke.

XIII. When you are forced to differ from him who delivers his sense on any point, yet agree as far as you can, and represent how far you agree; and if there be any room for it, explain the words of the speaker in such a sense to which you can in general assent, and so agree with him, or at least, by a small addition or alteration of his sentiments, show your own sense of things. It is the practice and delight of a candid hearer, to make it appear how unwilling he is to differ from him that speaks. Let the speaker know that it is nothing but truth constrains you to oppose him; and let that difference be always expressed in few, and civil, and chosen words, such as may give the least offense.

And be careful always to take Solomon's rule with you, and let your correspondent fairly finish his speech before you reply; "for he that answereth a matter before he heareth it, it is folly and shame unto him." Prov. 18 : 13.

A little watchfulness, care, and practice in younger life, will render all these things more easy, familiar, and natural to you, and will grow into habit.

XIV. As you should carry about with you a constant and sincere sense of your own ignorance, so you should not be afraid nor ashamed to confess this ignorance, by taking all proper opportunities to ask and inquire for

farther information; whether it be the meaning of a word, the nature of a thing, the reason of a proposition, the custom of a nation, etc., never remaining in ignorance for want of asking.

Many a person had arrived at some considerable degree of knowledge, if he had not been full of self-content, and imagined that he had known enough already, or else was ashamed to let others know that he was unacquainted with it. God and man are ready to teach the meek, the humble, and the ignorant; but he that fancies himself to know any particular subject well, or that will not venture to ask a question about it, such a one will not put himself into the way of improvement by inquiry and diligence. A fool may be "wiser in his own conceit than ten men who can render a reason;" and such a one is very likely to be an everlasting fool; and perhaps also it is a silly shame renders his folly incurable.

Stultorum incurata pudor malus ulcera celat.

—*Hor. Epist.* 16. *Lib.* 1.

In English thus :

If fools have ulcers, and their pride conceal them,
They must have ulcers still, for none can heal them.

XV. Be not too forward, especially in the younger part of life, to determine any question in company with an infallible and peremptory sentence, nor speak with assuming airs, and with a decisive tone of voice. A young man, in the presence of his elders, should rather hear and attend, and weigh the arguments which are brought for the proof or refutation of any doubtful proposition; and when it is your turn to speak, propose your thoughts rather in the way of inquiry. By this means your mind will be kept in a fitter temper to receive truth, and you will be more ready to correct and improve your own sentiments, where you have not been

too positive in affirming them. But if you have magisterially decided the point, you will find a secret unwillingness to retract, though you should feel an inward conviction that you were in the wrong.

XVI. It is granted, indeed, that a season may happen, when some bold pretender to science may assume haughty and positive airs, to assert and vindicate a gross and dangerous error, or to renounce and vilify some very important truth: and if he has a popular talent of talking, and there be no remonstrance made against him, the company may be tempted too easily to give their assent to the imprudence and infallibility of the presumer. They may imagine a proposition so much vilified can never be true, and that a doctrine which is so boldly censured and renounced can never be defended. Weak minds are too ready to persuade themselves, that a man would never talk with so much assurance unless he were certainly in the right, and could well maintain and prove what he said. By this means truth itself is in danger of being betrayed or lost, if there be no opposition made to such a pretending talker.

Now in such a case, even a wise and a modest man may assume airs too, and repel insolence with its own weapons. There is a time, as Solomon, the wisest of men, teaches us, "when a fool should be answered according to his folly, lest he be wise in his own conceit," and lest others too easily yield up their faith and reason to his imperious dictates. Courage and positivity are never more necessary than on such an occasion. But it is good to join some argument with them of real and convincing force, and let it be strongly pronounced too.

When such a resistance is made, you shall find some of those bold talkers will draw in their horns, when their fierce and feeble pushes against truth and reason are

repelled with pushing and confidence. It is pity indeed that truth should ever need such sort of defenses; but we know that a triumphant assurance hath sometimes supported gross falsehoods, and a whole company have been captivated to error by this means, till some man with equal assurance has rescued them. It is pity that any momentous point of doctrine should happen to fall under such reproaches, and require such a mode of vindication: though if I happen to hear it, I ought not to turn my back and to sneak off in silence, and leave the truth to lie baffled, bleeding, and slain. Yet I must confess, I should be glad to have no occasion ever given me to fight with any man at this sort of weapons, even though I should be so happy as to silence his insolence and to obtain an evident victory.

XVII. Be not fond of disputing every thing *pro* and *con*, nor indulge yourself to show your talent of attacking and defending. A logic which teaches nothing else is little worth. This temper and practice will lead you just so far out of the way of knowledge, and divert your honest inquiry after the truth which is debated or sought. In set disputes, every little straw is often laid hold on to support our own cause; every thing that can be drawn in any way to give color to our argument is advanced, and that perhaps with vanity and ostentation. This puts the mind out of a proper posture to seek and receive the truth.

XVIII. Do not bring a warm party spirit into a free conversation which is designed for mutual improvement in the search of truth. Take heed of allowing yourself in those self-satisfied assurances which keep the doors of the understanding^a barred fast against the admission of any new sentiments. Let your soul be ever ready to hearken to farther discoveries, from a constant and ruling consciousness of our present fallible and

imperfect state; and make it appear to your friends, that it is no hard task to you to learn and pronounce those little words, "I was mistaken," how hard soever it be for the bulk of mankind to pronounce them.

XIX. As you may sometimes raise inquiries for your own instruction and improvement, and draw out the learning, wisdom, and fine sentiments of your friends, who perhaps may be too reserved or modest; so, at other times, if you perceive a person unskillful in the matter of debate, you may, by questions aptly proposed in the Socratic method, lead him into a clearer knowledge of the subject: then you become his instructor, in such a manner as may not appear to make yourself his superior.

XX. Take heed of affecting always to shine in company above the rest, and to display the riches of your own understanding or your oratory, as though you would render yourself admirable to all that are present. This is seldom well taken in polite company; much less should you see such forms of speech as should insinuate the ignorance or dullness of those with whom you converse.

XXI. Though you should not affect to flourish in a copious harangue and a diffusive style in company, yet neither should you rudely interrupt and reproach him that happens to use it: but when he has done speaking, reduce his sentiments into a more contracted form; not with a show of correcting, but as one who is doubtful whether you hit upon his true sense or not. Thus matters may be brought more easily from a wild confusion into a single point, questions may be sooner determined and difficulties more easily removed.

XXII. Be not so ready to charge ignorance, prejudice, and mistake upon others, as you are to suspect yourself of it: and in order to show how free you are from preju-

dicees, learn to bear contradiction with patience ; let it be easy to you to hear your own opinion strongly opposed, especially in matters which are doubtful and disputable, amongst men of sobriety and virtue. Give a patient hearing to arguments on all sides ; otherwise you give the company occasion to suspect that it is not the evidence of truth has led you into this opinion, but some lazy anticipation of judgment, some beloved presumption, some long and rash possession of a party scheme, in which you desire to rest undisturbed. If your assent has been established upon just and sufficient grounds, why should you be afraid to let the truth be put to the trial of argument ?

XXIII. Banish utterly out of all conversation, and especially out of all learned and intellectual conference, every thing that tends to provoke passion or raise a fire in the blood. Let no sharp language, no noisy exclamations, no sarcasms, no biting jests be heard among you ; no perverse or invidious consequences be drawn from each other's opinions, and imputed to the person : let there be no willful perversion of an other's meaning ; no sudden seizure of a lapsed syllable to play upon it, nor any abused construction of an innocent mistake : suffer not your tongue to insult a modest opponent that begins to yield ; let there be no crowing and triumph, even where there is evident victory on your side. All these things are enemies to friendship, and the ruin of free conversation. The impartial search of truth requires all calmness and serenity, all temper and candor ; mutual instructions can never be attained in the midst of passion, pride, and clamor, unless we suppose, in the midst of such a scene, there is a loud and penetrating lecture read by both sides, on the folly and shameful infirmities of human nature.

XXIV. Whensoever, therefore, any unhappy word

shall arise in company, that might give you a reasonable disgust, quash the rising resentment, be it ever so just, and command your soul and your tongue into silence, lest you cancel the hopes of all improvement for that hour, and transform the learned conversation into the mean and vulgar form of reproaches and railing. The man who began to break the peace in such a society, will fall under the shame and conviction of such a silent reproof, if he has any thing ingenuous about him. If this should not be sufficient, let a grave admonition, or a soft and gentle turn of wit, with an air of pleasantry, give the warm disputer an occasion to stop the progress of his indecent fire; if not, to retract the indecency and quench the flame.

XXV. Inure yourself to a candid and obliging manner in your conversation, and acquire the art of pleasing address, even when you teach, as well as when you learn: and when you oppose, as well as when you assert or prove. This degree of politeness is not to be attained without a diligent attention to such kind of directions as are here laid down, and a frequent exercise and practice of them.

XXVI. If you would know what sort of companions you should select for the cultivation and advantage of the mind, the general rule is, choose such as, by their brightness of parts, and their diligence in study, or by their superior advancement in learning, or peculiar excellence in any art, science, or accomplishment, divine or human, may be capable of administering to your improvement; and be sure to maintain and keep some due regard to their moral character always, lest while you wander in quest of intellectual gain you fall into the contagion of irreligion and vice. No wise man can venture into a house infected with the plague, in order to see the finest collections of any virtuoso in Europe.

XXVII. Nor is it every sober person of your acquaintance, no, nor every man of bright parts, or rich in learning, that is fit to engage in free conversation for the inquiry after truth. Let a person have ever so illustrious talents, yet he is not a **proper** associate for such a purpose, if he lie under any of the following infirmities :

1. *If he be exceedingly reserved*, and hath either no inclination to discourse, or no tolerable capacity of speech and language for the communication of his sentiments.

2. If he be *haughty and proud* of his knowledge, imperious in his airs, and always fond of imposing his sentiments on all the company.

3. If he be *positive and dogmatical* in his own opinions, and will dispute to the end ; if he will resist the brightest evidence of truth, rather than suffer himself to be overcome, or yield to the plainest and strongest reasonings.

4. If he be one who *always affects to outshine all* the company, and delights to hear himself talk and flourish upon a subject, and make long harangues, while the rest must all be silent and attentive.

5. If he be a person of *whiffling and unsteady* turn of mind, who can not keep close to a point of controversy, but wanders from it perpetually, and is always solicitous to say something, whether it be pertinent to the question or not.

6. If he be *fretful and peevish*, and given to resentment upon all occasions : if he knows not how to bear contradiction, or is ready to take things in a wrong sense ; if he is swift to feel a supposed offense, or to imagine himself affronted, and then break out into a sudden passion, or retain silent and sullen wrath.

7. If he *affects wit on all occasions*, and is full of his conceits and puns, quirks or quibbles, jests and repartees ; these may agreeably entertain and animate an hour of mirth, but they have no place in the search after truth.

8. If he carry always about him *a sort of craft, and cunning, and disguise, and act rather like a spy than a friend. Have a care of such a one* as will make an ill use of freedom in conversation, and immediately charge heresy upon you, when you happen to differ from those sentiments which authority or custom has established.

In short, you should avoid the man, in such select conversation, who practices any thing that is unbecoming the character of a sincere, free, and open searcher after truth.

Now, though you may pay all the relative duties of life to persons of these unhappy qualifications, and treat them with decency and love, so far as religion and humanity oblige you, yet take care of entering into a free debate on matters of truth or falsehood in their company, and especially about the principles of religion. I confess, if a person of such a temper happens to judge and talk well on such a subject, you may hear him with attention, and derive what profit you can from his discourse; but he is by no means to be chosen for a free conference in matters of learning and knowledge.

XXVIII. While I would persuade you to beware of such persons and abstain from too much freedom of discourse amongst them, it is very natural to infer that you should watch against the working of these evil qualities in your own breast, if you happen to be tainted with any of them yourself. Men of learning and ingenuity will justly avoid your acquaintance, when they find such an unhappy and unsocial temper prevailing in you.

XXIX. To conclude, when you retire from company, then converse with yourself in solitude, and inquire what you have learned for the improvement of your understanding, or for the rectifying your inclinations, for the increase of your virtues, or the ameliorat-

ing your conduct and behavior in any future parts of life. If you have seen some of your company candid, modest, humble in their manner, wise and sagacious, just and pious in their sentiments. polite and graceful, as well as clear and strong in their expression, and universally acceptable and lovely in their behavior, endeavor to impress the idea of all these upon your memory, and treasure them up for your imitation.

XXX. If the laws of reason, decency, and civility, have not been well observed amongst your associates, **take notice of those defects for your own improvement:** and from every occurrence of this kind remark something to imitate or to avoid, in elegant, polite, and useful conversation. Perhaps you will find that some persons present have really displeased the company, by an excessive and too visible an affectation to please, *i. e.*, by giving loose to servile flattery or promiscuous praise; while others were as ready to oppose and contradict every thing that was said. Some have deserved just censure for a morose and affected taciturnity; and others have been anxious and careful lest their silence should be interpreted a want of sense, and therefore they have ventured to make speeches, though they had nothing to say which was worth hearing. Perhaps you will observe that one was ingenious in his thoughts and bright in his language, but he was so topful of himself that he let it spill on all the company; that he spoke well, indeed, but that he spoke too long, and did not allow equal liberty or time to his associates. You will remark that another was full charged, to let out his words before his friend had done speaking, or impatient of the least opposition to any thing he said. You will remember that some persons have talked at large, and with great confidence, of things which they understood not, and others counted every thing tedious and intolerable that was spoken upon

subjects out of their sphere, and they would fain confine the conference entirely within the limits of their own narrow knowledge and study. The errors of conversation are almost infinite.

XXXI. By a review of such irregularities as these, you may learn to avoid those follies and pieces of ill conduct which spoil good conversation, or make it less agreeable and less useful ; and by degrees you will acquire that delightful and easy manner of address and behavior in all useful correspondences, which may render your company every where desired and beloved ; and at the same time, among the best of your companions, you may make the highest improvement, in your own intellectual acquisitions.

CHAPTER IX.

OF DISPUTES IN GENERAL.

I. Under the general head of conversation for the improvement of the mind, we may rank the practice of disputing ; that is, when two or more persons appear to maintain different sentiments, and defend their own or oppose the other's opinion, in alternate discourse, by some methods of argument.

II. As these disputes often arise in good earnest, where the two contenders do really believe the different propositions which they support ; so sometimes they are appointed as mere trials of skill in academies or schools by the students ; sometimes they are practices, and that with apparent fervor, in courts of judicature by lawyers, in order to gain the fees of their different clients, while both sides perhaps are really of the same sentiment with regard to the cause which is tried.

III. In common conversation disputes are often managed without any forms of regularity or order, and they turn to good or evil purposes, chiefly according to the temper of disputants. They may sometimes be successful to search out truth, sometimes effectual to maintain truth and convince the mistaken; but at other times a dispute is a mere scene of battle in order to victory and vain triumph.

IV. There are some few general rules which should be observed in all debates whatsoever, if we would find out truth by them, or convince a friend of his error, even though they be not managed according to any settled forms of disputation; and as there are almost as many opinions and judgments of things as there are persons, so when several persons happen to meet and confer together upon any subject, they are ready to declare their different sentiments, and support them by such reasonings as they are capable of. This is called debating or disputing, as is above described.

V. When persons begin a debate they should always take care that they are agreed in some general principles or propositions, which either more nearly or remotely affect the question in hand; for otherwise they have no foundation or hope of convincing each other; they must have some common ground to stand upon, while they maintain the contest.

When they find they agree in some remote propositions, then let them search farther, and inquire how near they approach to each other's sentiments, and whatsoever propositions they agree in, let these lay a foundation for the mutual hope of conviction. Hereby you will be prevented from running at every turn to some original and remote propositions and axioms, which practice both entangles and prolongs dispute. As for instance, if there was a debate proposed betwixt a Prot-

estant and a Papist, whether there be such a place as Purgatory? Let them remember that they both agree in this point, that Christ has made satisfaction or atonement for sin, and upon this ground let them stand, while they search out the controverted doctrine of Purgatory by way of conference or debate.

VI. The question should be cleared from all doubtful terms and needless additions; and all things that belong to the question should be expressed in plain and intelligible language. This is so necessary a thing, that without it men will be exposed to such sort of ridiculous contests as were found one day between the two unlearned combatants Sartor and Sutor, who assaulted and defended the doctrine of transubstantiation with much zeal and violence; but Latino happening to come into their company and inquiring the subject of their dispute, asked each of them what he meant by that long hard word transubstantiation. Sutor readily informed him that he understood—bowing at the name Jesus: but Sartor assured him that he meant nothing but bowing at the high altar. “No wonder, then,” said Latino, “that you can not agree when you neither understand one another, nor the word about which you contend.”

I think the whole family of the Sartors and Sutors would be wiser if they avoided such kind of debates till they understood the terms better. But alas! even their wives carry on such conferences: the other day one was heard in the street explaining to her less learned neighbor the meaning of metaphysical science; and she assured her, that as physics were medicines for the body, so metaphysics were physics for the soul; upon this they went on to dispute the point—how far the divine excelled the doctor.

Auditum admissi risum teneatis, amici?
Ridentem dicere verum quid vetat?

Can it be faulty to repeat
A dialogue that walk'd the street?
Or can my gravest friends forbear
A laugh, when such disputes they hear?

VII. And not only the sense and meaning of the words used in the question should be settled and adjusted between the disputants, but the **precise point of inquiry should be distinctly fixed**; the question in debate should be limited precisely to its special extent, or declared to be taken in its more general sense. This sort of specification or limitation of the question hinders and prevents the disputants from wandering away from the precise point of inquiry.

It is this trifling humor or dishonest artifice of changing the question and wandering away from the first point of debate, which gives endless length to disputes and causes both disputants to part without any satisfaction. And one chief occasion of it is this: when one of the combatants feels his cause run low and fail, and is just ready to be confuted and demolished, he is tempted to step aside to avoid the blow, and betakes him to a different question: thus, if his adversary be not well aware of him, he begins to entrench himself in a new fastness, and holds out the siege with a new artillery of thoughts and words. It is the pride of man which is the spring of this evil, and an unwillingness to yield up their own opinions even to be overcome by truth itself.

VIII. Keep this always, therefore, upon your mind as an everlasting rule of conduct in your debates to find out truth, that a **resolute design**, or even a warm affectation of victory, is the bane of all real improvement, and an effectual bar against the admission of the truth which you profess to seek. This works with a secret, but a powerful and mischievous influence in every dispute, unless we are much upon our guard. It appears in frequent conversation; every age, every sex, and each party of mankind, are so fond of being in the right, that they know not how to renounce this unhappy prejudice, this vain love of victory.

When truth with bright evidence is ready to break in upon a disputant, and to overcome his objections and mistakes, how swift and ready is the mind to engage wit and fancy, craft and subtlety, to cloud and perplex and puzzle the truth, if possible! How eager is he to throw in some impertinent question to divert from the main subject! How swift to take hold of some occasional word, thereby to lead the discourse off from the point in hand! So much afraid is human nature of parting with its errors and being overcome by truth.

Just thus a hunted hare calls up all the shifts that nature hath taught her: she treads back her mazes, crosses and confounds her former track, and uses all possible methods to divert the scent, when she is in danger of being seized and taken. Let puss practice what nature teaches; but would one imagine that any rational being should take such pains to avoid truth and to escape the improvement of its understanding?

IX. When you come to a dispute in order to find out truth, do not presume that you are certainly possessed of it beforehand. Enter the debate with a sincere design of yielding to reason, on which side soever it appears. Use no subtle arts to cloud and entangle the question; hide not yourself in doubtful words and phrases; do not affect little shifts and subterfuges to avoid the force of an argument; take a generous pleasure to espy the first rising beams of truth, though it be on the side of your opponent; endeavor to remove the little obscurities that hang about it, and suffer and encourage it to break out into open and convincing light; that while your opponent perhaps may gain the better of your reasonings, yet you yourself may triumph over error; and I am sure that is a much more valuable acquisition and victory.

X. Watch narrowly in every dispute, that your opponent does not lead you unwarily to grant some principle of the proposition, which will bring with it

a fatal consequence, and lead you insensibly into his sentiment, though it be far astray from the truth; and by this wrong step you will be, as it were, plunged into dangerous errors before you are aware.

Remember this short and plain caution of the subtle errors of men. Let a snake but once thrust in his head at some small unguarded fold of your garment, and he will insensibly and unavoidably wind his whole body into your bosom, and give you a pernicious wound.

XI. On the other hand, when you have found your opponent make any such concession as may turn to your real advantage in maintaining the truth, be wise and watchful to observe it, and make a happy improvement of it.

XII. When you are engaged in a dispute with a person of very different principles from yourself, and you can not find any ready way to prevail with him to embrace the truth by principles which you both freely acknowledge, you may fairly make use of his own principles to show him his mistake, and thus convince or silence him from his own concessions.

If your opponent should be a Stoic philosopher or a Jew, you may pursue your argument in defense of some Christian doctrine or duty against such a disputant, by axioms or laws borrowed either from Zeno or Moses. And though you do not enter into the inquiry how many of the laws of Moses are abrogated, or whether Zeno was right or wrong in his philosophy, yet if from the principles and concessions of your opponent, you can support your argument for the Gospel of Christ, this has been always counted a fair treatment of an adversary, and it is called *argumentum ad hominem*, or *ratio ex concessis*. St. Paul sometimes makes use of this sort of disputation, when he talks with Jews or heathen philosophers; and at last he silences if not convinces them: which is sometimes necessary to be done against an obstinate and clamorous adversary, that just honor might be paid to truths which he knew were divine, and that the only true doctrine of salvation might be confirmed and propagated among sinful and dying men.

XIII. Yet great care must be taken, lest your

debates break in upon your passions, and awaken them to take part in the controversy. When the opponent pushes hard, and gives just and mortal wounds to our own opinions, our passions are very apt to feel the strokes, and to rise in resentment and defense. Self is so mingled with the sentiments which we have chosen, and has such a tender feeling of all the opposition which is made to them, that personal brawls are very ready to come in as seconds, to succeed and finish the dispute of opinions. Then noise, and clamor, and folly, appear in all their shapes, and chase reason and truth out of sight.

How unhappy is the case of frail and wretched mankind in this dark or dusky state of strong passion and glimmering reason! How ready are we, when our passions are engaged in the dispute, to consider more what loads of nonsense and reproach we can lay upon our opponent, than what reason and truth require in the controversy itself! Dismal are the consequences mankind are too often involved in by this evil principle; it is this common and dangerous practice that carries the heart aside from all that is fair and honest in our search after truth, or the propagation of it in the world. Happy souls, who keep such a sacred dominion over their inferior and animal powers, and all the influences of pride and secular interest, that the sensitive tumults, or these vicious influences, never rise to disturb the superior and better operations of the reasoning mind!

XIV. These general directions are necessary, or at least useful, in all debates whatsoever, whether they arise in occasional conversation, or are appointed at any certain time or place: whether they are managed with or without any formal rules to govern them.

CHAPTER X.

OF STUDY OR MEDITATION.

I. It has been proved and established in some of the foregoing chapters, that **neither our own observations, nor our reading the labors of the learned, nor the attendance on the best lectures of instruction, nor enjoying the brightest conversation, can ever make a man truly knowing and wise, without the labors of his own reason in surveying, examining, and judging concerning all subjects upon the best evidence he can acquire.** A good genius, or sagacity of thought, a happy judgment, a capacious memory, and large opportunities of observation and converse, will do much of themselves towards the cultivation of the mind, where they are well improved; **but where, to the advantage of learned lecturers, living instructions, and well chosen books, diligence and study are superadded, this man has all human aids concurring to raise him to a superior degree of wisdom and knowledge.**

Under the preceding heads of discourse it has been already declared how our own meditation and reflection should examine, cultivate, and improve all other methods and advantages of enriching the understanding. What remains in this chapter is to give some further occasional hints how to employ our own thoughts, what sort of subjects we should meditate on, and in what manner we should regulate our studies, and how we may improve our judgment, so as in the most effectual and conipendious way to attain such knowledge as may be most useful for every man in his circumstances of life, and particularly for those of the learned professions.

II. The first direction for youth is this—**learn betimes to distinguish between words and things. Get clear and plain ideas of the things you are set to study.**

Do not content yourselves with mere words and names, lest your labored improvements only amass a heap of unintelligible phrases, and you feed upon husks instead of kernels. This rule is of unknown use in every science.

III. Let not your students apply themselves to search out deep, dark, and abstruse matters, far above their reach, or spend their labor in any peculiar subjects, for which they have not the advantages of necessary antecedent learning, or books, or observations. Let them not be too hasty to know things above their present powers, nor plunge their inquiries at once into the depths of knowledge, nor begin to study any science in the middle of it; this will confound rather than enlighten the understanding; such practices may happen to discourage and jade the mind by an attempt above its power; it may balk the understanding, and create an aversion to future diligence, and perhaps by despair may forbid the pursuit of that subject forever afterwards: as a limb overstrained by lifting a weight above its power may never recover its former agility and vigor; or if it does, the man may be frightened from ever exerting its strength again.

IV. Nor yet let any student, on the other hand, fright himself at every turn with insurmountable difficulties, nor imagine that the truth is wrapt up in impenetrable darkness. These are formidable specters which the understanding raises sometimes to flatter its own laziness. Those things which in a remote and confused view seem very obscure and perplexed may be approached by gentle and regular steps, and may then unfold and explain themselves at large to the eye. The hardest problems in geometry, and the most intricate schemes or diagrams, may be explicated and understood step by step; every great mathematician bears a constant witness to the observation.

V. In learning any new thing, there should be as little as possible first proposed to the mind at once, and that being understood and fully mastered, proceed then to the next adjoining part yet unknown. This is a slow, but safe and sure way to arrive at knowledge. If the mind apply itself at first to easier subjects, and things near akin to what is already known, and then advance to the more remote and knotty parts of knowledge by slow degrees, it would be able in this manner to cope with great difficulties, and prevail over them with amazing and happy success.

Mathon happened to dip into the last two chapters of a new book of geometry and mensuration as soon as he saw it, and was frightened with the complicated diagrams which he found there, about the frustums of cones and pyramids, etc., and some deep demonstrations among conic sections; he shut the book again in despair and imagined none but a Sir Isaac Newton was ever fit to read it. But his tutor happily persuaded him to begin the first pages about lines and angles; and he found such surprising pleasure in three weeks' time in the victories he daily obtained, that at last he became one of the chief geometers of his age.

VI. Engage not the mind in the intense pursuit of too many things at once; especially such as have no relation to one another. This will be ready to distract the understanding and hinder it from attaining perfection in any one subject of study. Such a practice gives a slight smattering of several sciences, without any solid and substantial knowledge of them, and without any real and valuable improvement; and though two or three sorts of study may be usefully carried on at once, to entertain the mind with variety, that it may not be overtired with one sort of thoughts, yet a multitude of subjects will too much distract the attention and weaken the application of the mind to any one of them.

Where two or three sciences are pursued at the same time, if one of them be dry, abstracted, and unpleasant,

as logic, metaphysics, law, languages, let another be more entertaining and agreeable, to secure the mind from weariness and aversion to study. **Delight should be intermingled with labor as far as possible**, to allure us to bear the fatigue of dry studies the better. Poetry, practical mathematics, history, etc., are generally esteemed entertaining studies and may be happily used for this purpose. Thus while we relieve a dull and heavy hour by some alluring employments of the mind, our very diversions enrich our understandings, and our pleasure is turned to profit.

VII. In the pursuit of every valuable subject of knowledge, **keep the end always in your eye**, and be not diverted from it by every petty trifle you meet with in the way. Some persons have such a wandering genius that they are ready to pursue every incidental theme or occasional idea, till they have lost sight of the original subject. These are the men who, when they are engaged in conversation, prolong their story by dwelling on every incident, and swell their narrative with long parentheses, till they have lost their first designs; like a man who is sent in quest of some great treasure, but he steps aside to gather every flower he finds, or stands still to dig up every shining pebble he meets with in his way, till the treasure is forgotten and never found.

VIII. **Exert your care, skill, and diligence, about every subject and every question, in a just proportion to the importance of it**, together with the danger and bad consequences of ignorance or error therein. Many excellent advantages flow from this one direction.

1. This rule will teach you to be *very careful in gaining some general and fundamental truth* in philosophy, and religion, and in human life; because they are of the highest moment, and conduct our thoughts with ease into a thousand inferior and particular propositions.

2. This rule will direct us to be *more careful about practical points* than mere speculations, since they are commonly of much greater use and consequence.

3. In matters of practice we should be *most careful to fix our end right*, and wisely to determine the scope at which we aim, because that is to direct us in the choice and use of all the means to attain it. If our end be wrong, all our labor in the means will be vain, or perhaps so much the more pernicious as they are better suited to attain that mistaken end. If mere sensible pleasure, or human grandeur, or wealth, be our chief end, we shall choose means contrary to piety and virtue, and proceed apace towards real misery.

4. This rule will engage our best powers and *deepest attention in the affairs of religion*, and things that relate to a future world : for those propositions which extend only to the interest of the present life, are but of small importance when compared with those that have influence upon our everlasting concerns.

5. And even in the affairs of religion, if we walk by the conduct of this rule, we shall be much more laborious in our inquiries into the necessary and *fundamental articles of faith and practice*, than the lesser appendices of Christianity. The great doctrines of repentance towards God, faith in our Lord Jesus Christ, with love to men, and universal holiness, will employ our best and brightest hours and meditations, while the mint, anise, and cummin, the gestures, and vestures, and fringes of religion, will be regarded no farther than they have a plain and evident connection with faith and love, with holiness and peace.

6. This rule will make us solicitous not only to *avoid such errors*, whose influence would spread wide into the whole scheme of our own knowledge and practice, but *such mistakes* also whose influence would be yet more ex-

tensive and *injurious to others* as well as to ourselves : perhaps to many persons or many families, to a whole church, a town, a country, or a kingdom. Upon this account, persons who are called to instruct others, who are raised to any eminence either in Church or State, ought to be careful in settling their principles in matters relating to the civil, the moral, or the religious life, lest a mistake of theirs should diffuse wide mischief, should draw along with it most pernicious consequences, and perhaps extend to following generations.

These are some of the advantages which arise from the eighth rule, viz.: Pursue every inquiry and study in proportion to its real value and importance.

IX. Have care lest some beloved notion, or some darling science, so far prevail over your mind as to give a sovereign tincture to all your other studies and discolor all your ideas, like a person in the jaundice, who spreads a yellow scene with his eyes over all the objects which he meets. I have known a man of peculiar skill in music, and much devoted to that science, who found out a great resemblance of the Athanasian doctrine of the Trinity in every single note, and he thought it carried something of argument in it to prove that doctrine. I have read of another who accommodated the seven days of the first week of creation to seven notes of music, and thus the whole creation became harmonious.

Under this influence, derived from mathematical studies, some have been tempted to cast all their logical, their metaphysical, and their theological and moral learning into the method of mathematicians, and bring every thing relating to those abstracted, or those practical sciences, under theorems, problems, postulates, scholiums, corollaries, etc., whereas, the matter ought always to direct the method ; for all subjects or matters of thought can not be moulded or subdued to one form.

Neither the rules for the conduct of the understanding, nor the doctrines nor duties of religion and virtue, can be exhibited naturally in figures and diagrams. Things are to be considered as they are in themselves; their natures are inflexible, and their natural relations unalterable; and therefore, in order to conceive them aright, we must bring our understanding to things, and not pretend to bend and strain things to comport with our fancies and forms.

X. Suffer not any beloved study to prejudice your mind so far in favor of it as to despise all other learning. This is a fault of some little souls, who have got a smattering of astronomy, chemistry, metaphysics, history, etc., and for want of a due acquaintance with other sciences, make a scoff at them all in comparison of their favorite science. Their understandings are hereby cooped up in narrow bounds, so that they never look abroad into other provinces of the intellectual world, which are more beautiful, perhaps, and more fruitful than their own: if they would search a little into other sciences, they might not only find treasures of new knowledge, but might be furnished also with rich hints of thought and glorious assistances to cultivate that very province to which they have confined themselves.

XI. Let every particular study have due and proper time assigned it, and let not a favorite science prevail with you to lay out such hours upon it, as ought to be employed upon the more necessary and more important affairs or studies of your profession. When you have, according to the best of your discretion, and according to the circumstances of your life, fixed proper hours for particular studies, endeavor to keep to those rules; not indeed, with a superstitious preciseness, but with some good degrees of a regular constancy. Order and method in a course of study saves much time and makes large

improvements. Such a fixation of certain hours will have a happy influence to secure you from trifling and wasting away your minutes in impertinence.

XII. Do not apply yourself to any one study at one time longer than the mind is capable of giving a close attention to it without weariness or wandering. Do not overfatigue the spirits at any time, lest the mind be seized with a lassitude, and thereby be tempted to nauseate and grow tired of a particular subject before you have finished it.

XIII. In the beginning of your application to any new subject be not too uneasy under present difficulties that occur, nor too importunate and impatient for answers and solutions to any questions that arise. Perhaps a little more study, a little further acquaintance with the subject, a little time and experience will solve those difficulties, untie the knot, and make your doubts vanish: especially if you are under the instruction of a tutor, he can inform you that your inquiries are perhaps too early, and that you have not yet learned those principles upon which the solution of such a difficulty depends.

XIV. Do not expect to arrive at certainty in every subject which you pursue. There are a hundred things wherein we mortals in this dark and imperfect state must be content with probability, where our best light and reasonings will reach no farther. We must balance arguments as justly as we can, and where we can not find weight enough on either side to determine the scale with sovereign force and assurance, we must content ourselves, perhaps, with a small preponderation. This will give us a probable opinion, and those probabilities are sufficient for the daily determination of a thousand actions in human life, and many times even in matters of religion.

It is admirably well expressed by a late writer—

“When there is a great strength of argument set before us, if we will refuse to do what appears most fit for us, till every little objection is removed, we shall never take one wise resolution as long as we live.”

Suppose I had been honestly and long searching what religion I should choose, and yet I could not find that the argument in defense of Christianity arose to complete certainty, but went only so far as to give me a probable evidence of the truth of it: though many difficulties still remain, yet I should think myself obliged to receive and practice that religion; for the God of nature and reason has bound us to assent and act according to the best evidence we have, even though it be not absolute and complete, and as He is our Supreme Judge, His abounding goodness and equity will approve and acquit the man whose conscience honestly and willingly seeks the best light and obeys it as far as he can discover it.

But in matters of great importance in religion, let him join all due diligence with earnest and humble prayers for divine aid in his inquiries; such prayer and such diligence as eternal concerns require, and such as he may plead with courage before the Judge of all.

XV. Endeavor to apply every speculative study as far as possible, to some practical use, that both yourself and others may be the better for it. Inquiries even in natural philosophy should not be mere amusement, and much less in the affairs of religion. Researches into the springs of natural bodies and their motions should lead men to invent happy methods for the ease and convenience of human life; or at least they should be improved to awaken us to admire the wondrous wisdom and contrivances of God our creator in all the works of Nature.

CHAPTER XI.

OF FIXING THE ATTENTION.

I. A student should labor, by all proper methods, to acquire a steady fixation of thought. Attention is a very necessary thing in order to improve our minds. The evidence of truth does not always appear immediately, nor strike the soul at first sight. It is by long attention and inspection that we arrive at evidence, and it is for want of it we judge falsely of many things. We make haste to determine upon a slight and a sudden view, we confirm our guesses which arise from a glance, we pass a judgment while we have but a confused or obscure perception, and thus plunge ourselves into mistakes. This is like a man who, walking in a mist, or being at a great distance from any visible object (suppose a tree, a man, a horse, or a church,) judges much amiss of the figure, and situation, and colors of it, and sometimes takes one for the other; whereas, if he would but withhold his judgment till he came nearer to it, or stay till clearer light comes, and then would fix his eyes longer upon it, he would secure himself from those mistakes.

II. Now, in order to gain a greater facility of attention, we may **observe these rules**:

1. *Get a good liking to the study of knowledge you would pursue.* We may observe, that there is not much difficulty in confining the mind to contemplate what we have a great desire to know; and especially if they are matters of sense, or ideas which paint themselves upon the fancy. It is but acquiring a hearty good will and resolution to search out and survey the various properties

and parts of such objects, and our attention will be engaged, if there be any delight or diversion in the study or contemplation of them. Therefore, *mathematical studies* have a strange influence towards fixing the attention of the mind and giving a steadiness to a wandering disposition, because they deal much in lines, figures, and numbers, which affect and please the sense and imagination. *Histories* have a strong tendency the same way, for they engage the soul by a variety of sensible occurrences; when it hath begun, it knows not how to leave off; it longs to know the final event, through a natural curiosity that belongs to mankind. *Voyages and travels*, and accounts of strange countries and strange appearances, will assist in this work. This sort of study detains the mind by the perpetual occurrence and expectation of something new, and that which may gratefully strike the imagination.

2. Sometimes we may *make use of sensible things* and corporeal images *for the illustration* of those notions, which are more abstracted and intellectual. Therefore, diagrams greatly assist the mind in astronomy and philosophy; and the emblems of virtues and vices may happily teach children, and pleasingly impress those useful moral ideas on young minds, which perhaps might be conveyed to them with much more difficulty by mere moral and abstracted discourses.

I confess, in this practice of representing moral subjects by pictures, we should be cautious lest we so far immerse the mind in corporeal images, as to render it unfit to take in an abstracted and intellectual idea, or cause it to form wrong conceptions of immaterial things. This practice, therefore, is rather to be used at first, in order to get a fixed habit of attention, and in some cases only; but it can never be our constant way and method of pursuing all moral, abstracted, and spiritual themes.

3. Apply yourself to those studies, and *read those authors who draw out their subjects into a perpetual chain of*

connected reasonings, wherein the following parts of the discourse are naturally and easily derived from those which go before. Several of the mathematical sciences, if not all, are happily useful for this purpose. This will render the labor of study delightful to a rational mind, and will fix the powers of the understanding with strong attention to their proper operations by the very pleasure of it. *Labor ipse voluptas* is a happy proposition where-soever it can be applied.

4. *Do not choose your constant place of study by the finery of the prospects*, or the most various and entertaining scenes of sensible things. Too much light, or a variety of objects which strike the eye or the ear, especially while they are ever in motion or often changing, have a natural and powerful tendency to steal away the mind too often from its steady pursuit of any subject which we contemplate; and thereby the soul gets a habit of silly curiosity and impertinence, of trifling and wandering.

Vagario thought himself furnished with the best closet for his studies among the beauties, gaieties, and diversions of Kensington or Hampton Court; but after seven years professing to pursue learning, he was a mere novice still.

5. *Be not in too much haste to come to the determination of a difficult or important point*. Think it worth your waiting to find out truth. Do not give your assent up to either side of a question too soon, merely on this account, that the study of it is long and difficult. Rather be contented with ignorance for a season, and continue in suspense till your attention, and meditation, and due labor, have found out sufficient evidence on one side. Some are so fond to know a great deal at once, and love to talk of things with freedom and boldness before they truly understand them, that they scarcely ever allow themselves attention enough to search the matter through and through.

6. *Have a care of indulging the more sensual passions* and appetites of animal nature; they are great enemies to attention. Let not the mind of a student be under the influence of any warm affection to things of sense, when he comes to engage in the search of truth or the improvement of his understanding. A person under the power of love, or fear, or anger, great pain, or deep sorrow, hath so little government of his soul, that he can not keep it attentive to the proper subject of his meditation. The passions call away the thoughts with incessant importunity towards the object that excited them; and if we indulge the frequent rise and roving of passions, we shall thereby procure an unsteady and unattentive habit of mind.

Yet this one exception must be admitted, viz.: If we can be so happy as to engage any passion of the soul on the side of the particular study which we are pursuing, it may have great influence to fix the attention more strongly to it.

7. It is, therefore, very useful to *fix and engage the mind in the pursuit of any study by a consideration of the divine pleasures of truth and knowledge*—by a sense of our duty to God—by a delight in the exercise of our intellectual faculties—by the hope of future service to our fellow creatures, and glorious advantage to ourselves both in this world and that which is to come. These thoughts, though they may move our affections, yet they do it with a proper influence: these will rather assist and promote our attention, than disturb or divert it from the subject of our present and proper meditations.

A soul inspired with the fondest love of truth and the warmest aspirations after sincere felicity and celestial beatitude, will keep all its powers attentive to the incessant pursuit of them: passion is then refined and consecrated to its divinest purposes.

CHAPTER XII.

OF ENLARGING THE CAPACITY OF THE MIND.

There are three things which in an especial manner go to make up that amplitude or capacity of mind which is one of the noblest characters belonging to the understanding.

1. *When the mind is ready to take in great and sublime ideas without pain or difficulty.*

2. *When the mind is free to receive new and strange ideas, upon just evidence, without great surprise or aversion.*

3. *When the mind is able to conceive or survey many ideas at once without confusion, and to form a true judgment derived from that extensive survey.*

The person who wants either of these characters may, in that respect, be said to have a narrow genius. Let us diffuse our meditations a little upon this subject.

I. That is an ample and capacious mind which is ready to take in vast and sublime ideas without pain or difficulty. Persons who have never been used to converse with any thing but the common, little, and obvious affairs of life, have acquired such a narrow or contracted habit of soul, that they are not able to stretch their intellects wide enough to admit large and noble thoughts; they are ready to make their domestic, daily, and familiar images of things the measure of all that is, and all that can be.

II. I proceed now to consider the next thing wherein the capacity or amplitude of the mind consists, and that is, when the mind is free to receive new and strange ideas and propositions upon just evidence without any great surprise or aversion. Those who confine them-

selves within the circle of their own hereditary ideas and opinions, and who never give themselves leave so much as to examine or believe any thing besides the dictates of their own family, or sect, or party, are justly charged with a narrowness of soul. Let us survey some instances of this imperfection, and then direct to the cure of it.

1. *Persons who have been bred up all their days within the smoke of their father's chimney*, or within the limits of their native town or village, are surprised at every new sight that appears, when they travel a few miles from home.

This narrowness of mind should be cured by hearing and reading of accounts of different parts of the world, and the histories of past ages, and of nations and countries distant from our own, especially the more polite parts of mankind. Nothing tends in this respect so much to enlarge the mind as traveling, *i. e.*, making a visit to other towns, cities, or countries, besides those in which we were born and educated; and where our condition of life does not grant us this privilege, we must endeavor to supply the want of it by books.

2. It is the *same narrowness of mind* that awakens the surprise and aversion of *some persons*, when they hear of doctrines and schemes in human affairs, or in religion, quite different from what they have embraced. Perhaps they have been *trained up from their infancy in one set of notions*, and their thoughts have been confined to one single track both in the civil or religious life, without ever hearing or knowing what other opinions are current among mankind: or at least they have seen all other notions besides their own represented in a false and malignant light; whereupon they judge and condemn at once every sentiment but what their own party receives; and they think it a piece of justice and truth to lay heavy censures upon the practice of every sect in

Christianity or politics. They have so rooted themselves in the opinions of their party, that they can not hear an objection with patience, nor can they bear a vindication, or so much as an apology, for any set of principles beside their own; all the rest is nonsense or heresy, folly or blasphemy.

This defect also is to be relieved by free conversation with persons of different sentiments: this will teach us to bear with patience a defense of opinions contrary to our own. If we are scholars, we should also read the objections against our own tenets and view the principles of other parties, as they are represented in their own authors, and not merely in the citations of those who would confute them. We should take an honest and unbiased survey of the force of reasoning on all sides, and bring all to the test of unprejudiced reasoning and divine revelation. Note, this is not to be done in a rash and self-sufficient manner; but with an humble dependence on divine wisdom and grace, while we walk among snares and dangers.

By such a free converse with persons of different sects (especially those who differ only in particular forms of Christianity, but agree in the great and necessary doctrines of it) we shall find that **there are persons of good sense and virtue**, persons of piety and worth, persons of much candor and goodness, **who belong to different parties** and have imbibed sentiments opposite to each other. This will soften the roughness of an unpolished soul, and enlarge the avenues of our charity towards others, and incline us to receive them into all the degrees of unity and affection which the word of God requires.

III. The capacity of the understanding includes yet another qualification in it, and that is, **an ability to receive many ideas at once without confusion.** The

ample mind takes a survey of several objects with one glance, keeps them all within sight and present to the soul, that they may be compared together in their mutual respects; it forms just judgments, and it draws proper inferences from this comparison, even to a great length of argument, and a chain of demonstrations.

1. *The narrowness that belongs to human souls in general is a great imperfection and impediment to wisdom and happiness.* There are but few persons who can contemplate or practice several things at once; our faculties are very limited, and while we are intent upon one part or property of a subject, we have but a slight glimpse of the rest, or we lose it out of sight. But it is a sign of a large and capacious mind, if we can with one single view take in a variety of objects; or at least when the mind can apply itself to several objects with so swift a succession, and in so few moments, as attains almost the same ends as if it were done in the same instant.

2. *This is a necessary qualification in order to great knowledge and good judgment;* for there are several things in human life, in religion, and in the sciences, which have various circumstances, appendices, and relations attending them; and without a survey of all those ideas which stand in connection with and relation to each other, we are often in danger of passing a false judgment on the subject proposed. It is for this reason there are so numerous controversies found among the learned and unlearned world, in matters of religion as well as in the affairs of civil government.

3. It is owing to the narrowness of our minds that *we are exposed to the same peril in the matters of human duty and prudence.* In many things which we do, we ought not only to consider the mere naked action itself, but the persons who act, the persons towards

whom, the time when, the place where, the manner how, the end for which the action is done, together with the effects that must or that may follow, and all other surrounding circumstances: those things must necessarily be taken into our view, in order to determine whether the action, which is indifferent in itself, be either lawful or unlawful, good or evil, wise or foolish, decent or indecent, proper or improper, as it is so circumstantiated.

Let me give a plain instance for the illustration of this matter. Mario kills a dog, which, considered merely in itself, seems to be an indifferent action: now, the dog was Timon's, and not his own; this makes it look unlawful. But Timon bid him do it; this gives it an appearance of lawfulness again. It was done at church, and in time of divine service; these circumstances added, cast on it an air of irreligion. But the dog flew at Mario, and put him in danger of his life; this relieves the seeming impiety of the action. Yet Mario might have escaped by flying thence; therefore the action appears to be improper. But the dog was known to be mad; this further circumstance makes it almost necessary that the dog should be slain, lest he might worry the assembly and do much mischief. Yet again, Mario killed him with a pistol, which he happened to have in his pocket since yesterday's journey; now hereby the whole congregation was terrified and discomposed, and divine service was broken off: this carries an appearance of great indecency and impropriety in it: but after all, when we consider a further circumstance, that Mario, being thus violently assaulted by a mad dog, had no way of escape, and no other weapon about him, it seems to take away all the colors of impropriety, indecency, or unlawfulness, and to allow that the preservation of one or many lives will justify the act as wise and good. Now, all these concurrent appendices of the action ought to be surveyed, in order to pronounce with justice and truth concerning it.

There are a multitude of human actions in private life, in domestic affairs, in traffic, in civil governments, in courts of justice, in schools of learning, etc., which have so many complicated circumstances, aspects, and situations, with regard to time and place, persons and things, that it is impossible for any one to pass a right judgment concerning them, without entering into most of these circumstances, and surveying them extensively, and comparing and balancing them all right.

4. Whence by the way I may take occasion to say, how many *thousands* are there who take upon them to pass their censures on the personal and the domestic actions of others, who *pronounce boldly on the affairs of the public*, and determine the justice or madness, the wisdom or folly of national administrations, of peace and war, etc., *whom neither God nor men ever qualified for such a post of judgment!* They were not capable of entering into the numerous concurring springs of action, nor had they ever taken a survey of the twentieth part of the circumstances which were necessary for such judgments or censures.

5. It is the *narrowness* of our minds, as well as the vices of the will, that *oftentimes prevents from taking a full view of* all the complicated and concurring appendices that belong to *human actions*: thence it comes to pass that there is so little right judgment, so little justice, prudence, or decency, practiced among the bulk of mankind; thence arise infinite reproaches and censures—alike foolish and unrighteous. *You see, therefore, how needful and happy a thing it is to be possessed of some measure of this amplitude of soul, in order to make us very wise, or knowing, or just, or prudent, or happy.

6. I confess *this sort of amplitude or capacity of mind is in a great measure the gift of Nature*, for some are born with much more capacious souls than others.

The genius of some persons is so poor and limited, that they can hardly take in the connection of two or three propositions, unless it be in matters of sense, and which they have learned by experience: they are utterly unfit for speculative studies; it is hard for them to discern the difference betwixt right and wrong in matters of reason on any abstracted subjects; these ought never to set up for scholars, but apply themselves to those arts and professions of life which are to be learned at an easier rate by slow degrees and daily experience.

Others have a soul a little more capacious and they can take in the connection of a few propositions pretty well ; but if the chain of consequences be a little prolix, here they stick and are confounded. If persons of this make ever devote themselves to science, they should be well assured of a solid and strong constitution of body, and well resolved to bear the fatigue of hard labor and diligence in study : if the iron be bent, King Solomon tells us, we must put more strength.

But, in the third place, *there are some of so bright and happy a genius* and so ample a mind, that they can take in a long train of propositions, if not at once, yet in a very few moments, and judge well concerning the dependence of them. They can survey a variety of complicated ideas without fatigue or disturbance; and a number of truths offering themselves as it were at one view to their understanding, doth not perplex or confound them. This makes a great man.

IV. Now, though there may be much owing to nature in this case, yet experience assures us, that even a lower degree of **this capacity and extent of thought may be increased by diligence and application, by frequent exercise, and by the observation of such rules as these:**

1. *Labor, by all means, to gain an attentive and patient temper of mind*, a power of confining and fixing your thoughts so long on any one appointed subject, till you have surveyed it on every side and in every situation, and run through the several powers, parts, properties and relations, effects and consequences of it. He whose thoughts are very fluttering and wandering, and can not be fixed attentively to a few ideas successively, will never be able to survey many and various objects distinctly at once, but will certainly be overwhelmed and confounded with the multiplicity of them. The rules for fixing the attention in the former chapter are proper to be consulted here.

2. *Accustom yourself to clear and distinct ideas in every thing you think of.* Be not satisfied with obscure and confused conceptions of things, especially where clearer may be obtained; for one obscure or confused idea, especially if it be of great importance in the question, intermingled with many clear ones and placed in its variety of aspects towards them, will be in danger of spreading confusion over the whole scene of ideas, and thus may have an unhappy influence to overwhelm the understanding with darkness and pervert the judgment. A little black paint will shamefully tincture and spoil twenty gay colors.

Consider yet further, that if you content yourself frequently with words instead of ideas, or with cloudy and confused notions of things, how impenetrable will that darkness be, and how vast and endless that confusion which must surround and involve the understanding, when many of these obscure and confused ideas come to be set before the soul at once; and how impossible will it be to form a clear and just judgment about them.

3. *Use all diligence to acquire and treasure up a large store of ideas and notions:* take every opportunity to add something to your stock: and by frequent recollection fix them in your memory; nothing tends to confirm and enlarge the memory like a frequent review of its possessions. Then the brain being well furnished with various traces, signatures, and images, will have a rich treasure always ready to be proposed or offered to the soul, when it directs its thoughts towards any particular subject. This will gradually give the mind a faculty of surveying many objects at once, as a room that is richly adorned and hung round with a great variety of pictures strikes the eye almost at once with all that variety, especially if they have been well surveyed one by one at first: this makes it habitual and more easy to

the inhabitants to take in many of those painted scenes with a single glance or two.

Here note, that by acquiring a rich treasure of notions, I do not mean only single ideas, but also propositions, observations, and experiences, with reasonings and arguments upon the various subjects that occur among natural and moral, common or sacred affairs; that when you are called to judge concerning any question, you will have some principles of truth, some useful axioms and observations, always ready at hand to direct and assist your judgment.

4. It is necessary that we should as far as possible entertain and *lay up our daily new ideas in a regular order*, and range the acquisitions of our souls under proper heads, whether of divinity, law, physies, mathematics, morality, politics, trade, domestic life, civility, decency, etc., whether of cause, effect, substance, mode, power, property, body, spirit, etc.. *We should inure our minds to methods and order continually*; and when we take in any fresh ideas, occurrences, and observations, we should dispose of them in their proper places, and see how they stand and agree with the rest of our notions on the same subjects: as a scholar would dispose of a new book on a proper shelf among its kindred authors; or as an officer at the post-house in London disposes of every letter he takes in, placing it in the box that belongs to the proper road or county.

In any of these cases, if things lie all in a heap, the addition of any new object would increase the confusion, but method gives a speedy and short survey of them with ease and pleasure. Method is of admirable advantage to keep our ideas from a confused mixture, and to preserve them ready for every use. The science of ontology, which distributes all beings, and all the affections

of being, whether absolute or relative, under proper classes, is of good service to keep our intellectual acquisitions in such order as that the mind may survey them at once.

5. As method is necessary for the improvement of the mind, in order to make your treasure of ideas most useful, so in all your further pursuits of truth and acquisitions of rational knowledge, *observe a regular progressive method*. Begin with the most simple, easy, and obvious ideas; then by degrees join two, and three, and more of them together : thus the complicated ideas, growing up under your eye and observation, will not give the same confusion of thought as they would do if they were all offered to the mind at once, without your observing the original and formation of them.

An eminent example of this appears in the study of arithmetic. If a scholar, just admitted into the school, observes his master performing an operation in the rule of division, his head is at once disturbed and confounded with the manifold comparisons of the numbers of the divisor and dividend, and the multiplication of the one and subtraction of it from the other; but if he begin regularly at addition, and so proceed by subtraction and multiplication, he will then in a few weeks be able to take in an intelligent survey of all those operations in division, and to practice them himself with ease and pleasure, each of which at first seemed all intricacy and confusion.

Beginning with A, B, C, and making syllables out of letters, and words out of syllables, has been the foundation of all that glorious superstructure of art and science which have enriched the minds and libraries of the learned world in several ages. These are the first steps by which the ample and capacious souls among mankind have arrived at that prodigious extent of knowledge, which renders them the wonder and glory of the nation where they live. Though Plato and Cicero, Descartes and Mr. Boyle, Mr. Locke and Sir Isaac Newton, were doubtless favored by nature with a genius of uncommon amplitude; yet, in their early years, and first attempts with science, this was but limited and narrow, in comparison with what they attained at last. But how vast and capacious were those powers which they afterwards acquired by patient attention and watchful observation, by the pursuit of clear ideas, and a regular method of thinking.

6. *Another means* of acquiring this amplitude and capacity of mind, *is a perusal of difficult entangled questions* and of the solution of them in any science. Speculative and casuistical divinity will furnish us with many such cases and controversies,

In moral and political subjects, Puffendorff's *Law of Nature and Nations*, and several determinations therein, will promote the same amplitude of mind. An attendance on public trials, and arguments in the civil courts of justice, will be of good advantage for this purpose, and after a man has studied the general principles of the law of Nature, and the laws of England, in proper books, the reading the reports of adjudged cases, collected by men of great sagacity and judgment, will richly improve his mind toward acquiring this desirable amplitude and extent of thought, and more especially in persons of that profession.

CHAPTER XIII.

OF IMPROVING THE MEMORY.

I. MEMORY is a distinct faculty of the mind of man, very different from perception, judgment, and reasoning, and its other powers. Then we are said to remember any thing, when the idea of it arises in the mind with a consciousness at the same time that we have had this idea before. Our memory is our natural power of retaining what we learn, and of recalling it on every occasion. Therefore we can never be said to remember any thing, whether it be ideas or propositions, words or things, notions or arguments, of which we have not had some former idea or perception, either by sense or imagination, thought or reflection; but whatsoever we learn

from observation, books, or conversation, etc., it must all be laid up and preserved in the memory, if we would make it really useful.

II. So necessary and so excellent a faculty is the memory of man, that all other abilities of the mind borrow from hence their beauty and perfection; for the other capacities of the soul are almost useless without this. To what purpose are all our labors in knowledge and wisdom, if we want memory to preserve and use what we have acquired? What signify all other intellectual and spiritual improvements, if they are lost as soon as they are obtained? It is memory alone that enriches the mind, by preserving what our labor and industry daily collect. In a word, there can be neither knowledge, nor arts, nor sciences, without memory; nor can there be any improvement of mankind in virtue or morals, or the practice of religion, without the assistance and influence of this power. Without memory the soul of man would be but a poor, destitute, naked being, with an everlasting blank spread over it, except the fleeting ideas of the present moment.

III. Memory is very useful to those who speak as well as to those who learn; it assists the teacher and the orator, as well as the scholar or the hearer. The best speeches and instructions are almost lost, if those who hear them immediately forget them. And those who are called to speak in public are much better heard and accepted, when they can deliver their discourse by the help of a lively genius and a ready memory, than when they are forced to read all that they would communicate to their hearers. Reading is certainly a heavier way of conveyance of our sentiments; and there are few mere readers who have the felicity of penetrating the soul and awakening the passions of those who hear, by such a grace and power of oratory, as the man who seems

to talk every word from his very heart, and pours out the very riches of his own knowledge upon the people round about him by the help of a free and copious memory. This gives life and spirit to every thing that is spoken, and has a natural tendency to make a deeper impression on the minds of men: it awakens the dullest spirits, causes them to receive a discourse with more affection and pleasure, and adds a singular grace and excellence, both to the person and his oration.

IV. A good judgment and a good memory are very different qualifications. A person may have a very strong, capacious, and retentive memory, where the judgment is very poor and weak; as some times it happens in those who are but one degree above an idiot, who have manifested an amazing strength and extent of memory, but have hardly been able to join or disjoin two or three ideas in a wise and happy manner to make a solid rational proposition.

There have been instances of others who have had but a very tolerable power of memory, yet their judgment has been of a much superior degree, just and wise, solid and excellent.

V. Yet it must be acknowledged, that where a happy memory is found in any person, there is one good foundation laid for a wise and just judgment of things, wheresoever the natural genius has any thing of sagacity and brightness to make a right use of it. A good judgment must always in some measure depend upon a survey and comparison of several things together in the mind, and determining the truth of some doubtful proposition by that survey and comparison. When the mind has, as it were, set all those various objects present before it, which are necessary to form a true proposition of judgment concerning any thing, it then determines that such and such ideas are to be joined or disjoined, be affirmed

or denied; and this is a consistency and correspondence with all those other ideas and propositions which any way relate or belong to the same subject. Now, there can be no such comprehensive survey of many things without a tolerable degree of memory; it is by reviewing things past we learn to judge of the future: and it happens some times that if one needful or important object or idea be absent, the judgment concerning the thing inquired will thereby become false or mistaken.

VI. You will inquire then, How comes it to pass that there are some persons who appear in the world of business, as well as the world of learning, to have a good judgment, and have acquired the just character of prudence and wisdom, and yet have neither a very bright genius or sagacity of thought, nor a very happy memory, so that they can not set before their minds at once a large scene of ideas in order to pass a judgment.

Now, we may learn from Penseroso some accounts of this difficulty. You shall scarcely ever find this man forward in judging and determining things proposed to him; but he always takes time, and delays, and suspends, and ponders things maturely, before he passes his judgment: then he practices a slow meditation, ruminates on the subject, and thus perhaps in two or three nights and days rouses and awakens those several ideas, one after another, as he can, which are necessary in order to judge aright of the thing proposed, and makes them pass before his review in succession: this he doth to relieve the want both of a quick sagacity of thought and of a ready memory and speedy recollection; and this caution and practice lays the foundation of his just judgment and wise conduct. He surveys well before he judges.

Whence I can not but take occasion to infer one good rule of advice to persons of higher as well as lower genius, and of large as well as narrow memories, viz.: That they do not too hastily pronounce concerning matters of doubt or inquiry, where there is not an urgent necessity of present action. The bright genius

is ready to be so forward as often betrays itself into great errors in judgment, speech, and conduct, without a continual guard upon itself, and using the bridle of the tongue. And it is by this delay and precaution that many a person of much lower natural abilities shall often excel persons of the brightest genius in wisdom and prudence.

VII. It is often found that a fine genius has but a feeble memory; for where the genius is bright and the imagination vivid, the power of memory may be too much neglected and lose its improvement. An active fancy readily wanders over a multitude of objects and is continually entertaining itself with new flying images; it runs through a number of new scenes or new pages with pleasure, but without due attention, and seldom suffers itself to dwell long enough upon any one of them, to make a deep impression thereof upon the mind and commit it to lasting remembrance. This is one plain and obvious reason why there are some persons of very bright parts and active spirits, who have but short and narrow powers of remembrance: for having riches of their own, they are not solicitous to borrow.

VIII. And as such a quick and various fancy and invention may be some hindrance to the attention and memory, so a mind of a good retentive ability, and which is ever crowding its memory with things which it learns and reads continually, may prevent, restrain, and cramp the invention itself.

The memory of Lectorides is ever ready, upon all occasions, to offer to his mind some thing out of other men's writings or conversations, and is presenting him with the thoughts of other persons perpetually; thus the man who had naturally a good flowing invention, does not suffer himself to pursue his own thoughts. Some persons who have been blessed by nature with sagacity and no contemptible genius, have too often forbid the exercise of it, by tying themselves down to the memory of the volumes they have read and the sentiments of other men contained in them.

Where the memory has been almost constantly employing itself in scraping together new acquirements, and where there has not been a judgment sufficient to distinguish what things were fit to be recommended and treasured up in the memory, and what things were idle, useless, or needless, the mind has been filled with a wretched heap of hodgepotch of words or ideas; and the soul may be said to have had large possessions, but no true riches.

IX. I have read in some of Mr. Milton's writings a very beautiful simile, whereby he represents the books of the Fathers, as they are called in the Christian Church. Whatsoever, saith he, **Old Time with his huge dragnet** has conveyed down to us along the stream of ages, whether it be shells or shell-fish, jewels or pebbles, sticks or straws, sea-weeds or mud, these are the ancients, these are the fathers. The case is much the same with the memorial possessions of the greater part of mankind. A few useful things, perhaps, mixed and confounded with many trifles, and all manner of rubbish, fill up their memories and compose their intellectual possessions. It is a great happiness therefore to distinguish things aright, and to **lay up nothing in the memory but what has some just value in it** and is worthy to be numbered as a part of our treasure.

X. Whatsoever improvements arise to the mind of man from the wise exercise of his own reasoning powers, these may be called his proper manufactures; and whatsoever he borrows from abroad, these may be termed his proper treasures; **both together make a wealthy and a happy mind.**

XI. **How many excellent judgments and reasonings** are framed in the mind of a man of wisdom and study in a length of years! How many worthy and admirable notions has he been possessed of in life, both by his own

reasonings, and his prudent and laborious collections in the course of his reading! But, alas! how many thousands of them vanish away again and are lost in empty air, for want of a stronger and more retentive memory! When a young practioner in the law was once said to contest a point of debate with that great lawyer in the last age, Sergeant Maynard, he is reported to have answered him, "Alas! young man, I have forgot much more law than ever thou hast learnt or read."

XII. What an unknown and unspeakable happiness would it be to a man of judgment, and who is engaged in the pursuit of knowledge, if he had but a power of stamping all his own best sentiments upon his memory in some indelible characters; and if he could but imprint every valuable paragraph and sentiment of the most excellent authors he has read, upon his mind, with the same speed and facility with which he read them! If a man of good genius and sagacity could but retain and survey all those numerous, those wise and beautiful ideas at once, which have ever passed through his thoughts upon any one subject, how admirably would he be furnished to pass a just judgment about all present objects and occurrences! What a glorious entertainment and pleasure would felicitate his spirit, if he could grasp all these in a single survey, as the skillful eye of a painter runs over a fine and complicate piece of history wrought by the hand of a Titian or a Raphael, views the whole scene at once, and feeds himself with the extensive delight! But these are joys that do not belong to mortality.

XIII. Thus far I have indulged some loose and unconnected thoughts and remarks with regard to the different powers of wit, memory, and judgment. For it was very difficult to throw them into a regular form or method without more room. Let us now with more regularity treat of the memory alone.

“Though the memory be a natural faculty of the mind of man, and belongs to spirits which are not incarnate—though the mind itself is immaterial—a principle superadded to matter, yet the brain is the instrument which it employs in all its operations. Though it is not matter, yet it works by means of matter, and its operations are materially affected by the condition of the brain, its principal organ. Through the medium of the brain and nervous system the mind obtains a knowledge of the external world. The memory receives impressions of facts and events, and treasures up their images; and it also becomes the retentive receptacle of the ideas and conclusions derived from meditation and reflection.

XIV. The immaturity of the brain in early life renders it incapable of becoming the instrument of powerful mental actions, and the images which are then impressed upon the memory are chiefly those of facts and events. The memory grows from the period of infancy and may be greatly improved by proper exercise, or injured by sloth.

XV. The improvement of the memory requires the cultivation of habits of attention, or of intense application of the mind to whatever is, at the time, its more immediate object of pursuit. Slight impressions are soon forgotten, but whatever is impressed upon the mind by fixed attention and close thought, is indelibly stamped upon the memory and becomes as durable as the mind itself.

Many persons of advanced age will tell long stories of things which occurred during the early period of their lives, and were so deeply engraven upon the memory as to be retained in their most minute particulars through a long succession of years.

XVI. The memory is more or less affected by various diseases of the body; chiefly from injuries of

the head, affections of the brain, fever, and diseases of extreme debility. Numerous cases are on record of persons who, from the influence of disease, have recovered a knowledge of things long forgotten; and of others who have lost all knowledge of persons and things.

A man who was born in France, but had spent most of his life in England and entirely lost the habit of speaking French, received an injury on the head, and, during the illness which followed, always spoke in the French language. Another, when recovering from an injury of the head, spoke the Welsh language, which he learned in childhood, but had subsequently entirely forgotten. Another entirely lost his mental faculties during a severe illness. For several weeks subsequent to his recovery he remembered nothing and understood nothing; but at the expiration of two or three months he gradually recovered his memory and other faculties.

Impressions which are deeply engraven upon the mind appear never to be effaced; but the power of calling them up is sometimes lost, until sickness or some other cause restores that power. The faculties of the mind are greatly assisted or injured by the condition of the brain, which in most aged people relaxes its energies, and a want of close attention to passing events prevents lasting impressions from being made on the memory.

XVII. The brain being the chief instrument of the mind, whatever tends to promote a healthful and vigorous condition of that organ may help to preserve the memory; but excess of wine, or luxury of any kind, as well as excess in study and application to the business of life, may injure the memory by overstraining and weakening the brain.

XVIII. A good memory has these several qualifications:

1. It is ready to receive and admit, with great ease, the various ideas both of words and things which are learned or taught.
2. It is large and copious to treasure up these ideas in great number and variety.

3. It is **strong and durable** to retain for a considerable time those words or thoughts which are committed to it.
4. It is **faithful and active** to suggest and recollect, upon every proper occasion, all those words or thoughts which have been recommended to its care, or treasured up in it.

XIX. Now in every one of these qualifications a memory may be injured or **may be improved**: yet I shall not insist distinctly on these particulars, but only in general propose a few rules or directions whereby this noble faculty of memory, in all its branches and qualifications, may be preserved or assisted, and show what are the practices that both by reason and experience have been found of happy influence to this purpose.

XX. There is one great and general direction which belongs to the improvement of other powers as well as of the memory, and that is to **keep it always in due and proper exercise**. Many acts by degrees form a habit, and thereby the ability or power is strengthened and made more ready to appear again in action. Our memories should be used and inured from childhood to bear a moderate quantity of knowledge let into them early, and they will thereby become strong for use and service. As any limb well and duly exercised grows stronger, the nerves of the body are corroborated thereby. Milo took up a calf and daily carried it on his shoulders; as the calf grew, his strength grew also, and he at last arrived at firmness of joints enough to bear the bull.

XXI. Our memories will be in a great measure moulded and formed, **improved or injured, according to the exercise of them**. If we never use them, they will be almost lost. Those who are wont to converse or read but a few things only, will retain but a few in their memory; those who are used to remember things but for an hour, and charge their memories with it no longer, will retain them but an hour before they vanish. And

let words be remembered as well as things, that so you may acquire a *copia verborum* as well as *rerum*, and be more ready to express your mind on all occasions.

XXII. Yet there should be a caution given in such cases: **the memory of a child or any infirm person should not be overburdened**; for a limb or a joint may be overstrained by being too much loaded, and its natural power never be recovered. Teachers should wisely judge of the power and constitution of youth, and impose no more on them than they are able to bear with cheerfulness and improvement.

And particularly they should take care that the memory of the learner be not too much crowded with a tumultuous heap or overbearing multitude of documents or ideas at one time; this is the way to remember nothing, one idea effaces another. An overgreedy grasp does not retain the largest handful. But it is the exercise of memory with a due moderation, that is one general rule towards the improvement of it.

XXIII. The particular rules are such as these :

1. *Due attention and diligence to learn and know things*, which we would commit to our remembrance, is a rule of great necessity in this case. When the attention is strongly fixed to any particular subject, all that is said concerning it makes a deeper impression upon the mind. There are some persons who complain they can not remember divine or human discourses which they hear, when, in truth, their thoughts are wandering half the time, or they hear with such coldness and indifference, and a trifling temper of spirit, that it is no wonder the things which are read or spoken make but a slight impression on the mind and get no firm footing in the seat of memory, but soon vanish and are lost.

It is needful, therefore, if we would maintain a long remembrance of the things which we read, or hear, that

we should engage our delight and pleasure in those subjects, and use the other methods which are before prescribed in order to fix the attention. Sloth, indolence, and idleness, will no more bless the mind with intellectual riches, than it will fill the hand with gain, the field with corn, or the purse with treasure.

Let it be added also, that not only the slothful and the negligent deprive themselves of proper knowledge for the furniture of their memory, but such as appear to have active spirits, who are ever skimming over the surface of things with a volatile temper, will fix nothing in their minds. Vario will spend whole mornings in running over loose and unconnected pages, and with fresh curiosity is ever glancing over new words and ideas that strike his present fancy; he is fluttering over a thousand objects of art and science, and yet treasures up but little knowledge. There must be the labor and the diligence of close attention to particular subjects of thought and inquiry, which only can impress what we read or think of upon the remembering faculty of man.

2. *Clear and distinct apprehension of the things which we commit to memory is necessary* in order to make them stick and dwell there. If we would remember words, or learn the names of persons or things, we should have them recommended to our memory by a clear and distinct pronunciation, spelling, or writing. If we would treasure up the ideas of things, notions, propositions, arguments, and sciences, these should be recommended also to our memory by a clear and distinct perception of them. Faint, glimmering, and confused ideas will vanish like images seen in twilight. Every thing which we learn should be conveyed to the understanding in the plainest expressions, without any ambiguity, that we may not mistake what we desire to remember. This is a general rule, whether we would employ the memory about words or

things, though it must be confessed that mere sounds and words are much harder to get by heart than the knowledge of things and real images.

For this reason take heed (as I have often before warned) *that you do not take up with words instead of things*, nor mere sounds instead of real sentiments and ideas. Many a lad forgets what has been taught him, merely because he never well understood it; he never clearly and distinctly took in the meaning of those sounds and syllables which he was required to get by heart.

3. *Method and regularity in the things we commit to memory*, is necessary in order to make them take more effectual possession of the mind and abide there long. As much as systematical learning is decried by some vain and humorous triflers of the age, it is certainly the happiest way to furnish the mind with a variety of knowledge.

Whatsoever you would trust to your memory, *let it be disposed in a proper method*, connected well together, and referred to distinct and particular heads or classes, both general and particular.

An apothecary's boy will much sooner learn all the medicines in his masters's shop, when they are ranged in boxes or on shelves according to their distinct natures, whether herbs, drugs, or minerals, whether leaves or roots, whether chemical or galenical preparations, whether simple or compound, etc., and when they are placed in some order according to their nature, their fluidity, or their consistence, etc., in phials, bottles, gallipots, cases, drawers, etc.; so the genealogy of a family is more easily learned when you begin at some great-grandfather as the root, and distinguish the stock, the large boughs, the lesser branches, the twigs, and the buds, till you come down to the present infants of the house. And, indeed, all sorts of arts and sciences taught in a method something of this kind are more happily committed to the mind or memory.

4. *A frequent review*, and careful repetition of the things we would learn, and an abridgment of them in a narrow compass for this end, *has a great influence to fix them in the memory*: therefore it is that the rules of grammar, and

useful examples of the variation of words, and the peculiar forms of speech in any language, are so often appointed by the masters as lessons for the scholars to be frequently repeated; and they are contracted into tables for frequent review, that what is not fixed in the mind at first, may be stamped upon the memory by a perpetual survey and rehearsal.

Repetition is so very useful a practice, that Mnemon, even from his youth to his old age, never read a book without making some small points, dashes, or hooks, in the margin, to mark what parts of the discourse were proper for review: and when he came to the end of a section or chapter; he always shut his book and recollected all the sentiments or expressions he had remarked, so that he could give a tolerable analysis and abstract of every treatise he had read, just after he had finished it. Thence he became so well furnished with a rich variety of knowledge.

Even when a person is hearing a sermon or a lecture, he may give his thoughts leave now and then to step back so far as to recollect the several heads of it from the beginning, two or three times before the lecture or sermon is finished: the omission or the loss of a sentence or two among the amplifications is richly compensated by preserving in the mind the method and order of the whole discourse in the most important branches of it.

If we would fix in the memory the discourses we hear, or what we design to speak, let us abstract them into brief compends, and review them often. Lawyers and divines have need of such assistances: they write down short notes or hints of the principal heads of what they desire to commit to their memory in order to preach or plead, for such abstracts or epitomes may be reviewed much sooner, and the several amplifying sentiments or sentences will be more easily invented or recollected in their proper places. *The art of short-hand is of excellent use* for this as well as other purposes. It must be acknowledged, that those who scarcely ever take a pen

in their hand to write short notes or hints of what they are to speak or learn, who never try to cast things into method or to contract the survey of them in order to commit them to their memory, had need have a double degree of that natural power of retaining and recollecting what they read, or hear, or intend to speak.

Do not plunge yourself into other business or studies, amusements or recreations, immediately after you have attended upon instruction, if you can well avoid it. Get time, if possible, to recollect the things you have heard, that they may not be washed all away from the mind by a torrent of other occurrences or engagements, nor lost in the crowd or clamor of other loud or importunate affairs.

Talking over the things which you have read with your companions on the first proper opportunity you have for it, is a most useful manner of review or repetition, in order to fix them upon the mind. *Teach* them your younger friends, *in order to establish your own knowledge* while you communicate it to them. The animal powers of your tongue and of your ear, as well as your intellectual faculties, will all join together to help the memory. Hermetas studied hard in a remote corner of the land, and in solitude, yet he became a very learned man. He seldom was so happy as to enjoy suitable society at home, and therefore he talked over to the fields and the woods in the evening what he had been reading in the day, and found so considerable advantage by this practice that he recommended it to all his friends since he could set his probatum to it for seventeen years.

5. *Pleasure and delight in the things we learn give great assistance towards the remembrance of them.* Whatsoever therefore we desire that a child should commit to his memory, make it as pleasant to him as possible; endeavor to search his genius and his temper, and let him take in

the instructions you give him or the lessons you appoint him, as far as may be, in a way suited to his natural inclination.

Fabellus would never learn any moral lessons till they were moulded into the form of some fiction or fable like those of Æsop, or till they put on the appearance of a parable, like those wherein our blessed Saviour taught the ignorant world ; then he remembered well the emblematical instructions that were given him, and learned to practice the moral sense and meaning of them. Young Spectorius was taught virtue by setting before him a variety of examples of the various good qualities in human life ; and he was appointed daily to repeat some story of this kind out of *Valerius Maximus*. The same lad was early instructed to avoid the common vices and follies of youth in the same manner. This is akin to the method whereby the Lacedæmonians trained up their children to hate drunkenness and intemperance, viz., by bringing a drunken man into their company and showing them what a beast he had made of himself. Such visible and sensible forms of instruction will make long and useful impressions upon the memory.

Children may be taught to remember many things in a way of sport and play. Some young creatures have learned their letters and syllables, and the pronouncing and spelling of words, by having them pasted or written upon many little flat tablets or dies. Some have been taught vocabularies of different languages, having a word in one tongue written on one side of these tablets, and the same word in another tongue on the other side of them.

There might be also many entertaining contrivances for the instruction of children in several things relating to geometry, geography, and astronomy, in such alluring and illusory methods, which would make a most agreeable and lasting impression on their minds.

6. *The memory of useful things may receive considerable aid if they are thrown into verse ;* for the numbers and measures and rhyme, according to the poesy of different languages, have a considerable influence upon mankind, both to make them receive with more ease the things proposed

to their observation, and preserve them longer in their remembrance. How many are there of the common affairs of human life which have been taught in early years by the help of rhyme, and have been like nails fastened in a sure place and riveted by daily use.

So the number of the days of each month are engraven on the memory of thousands by these four lines :

Thirty days hath September,
June, and April, and November;
February twenty-eight alone;
All the rest have thirty-one.

So have rules of health been prescribed in the book called *Schola Salernitani*, and many a person has preserved himself doubtless from evening gluttony, and the pains and diseases consequent upon it, by these two lines:

Ex magna cœna stomacho fit maxima pœna:
Ut sis nocte levis, sit tibi cœna brevis.

Englished :

To be easy all night
Let your supper be light;
Or else you'll complain
Of a stomach in pain.

And a hundred proverbial sentences in various languages are formed into rhyme or a verse, whereby they are made to stick upon the memory of old and young,

It is from this principle that moral rules have been cast into a poetic mould from all antiquity. So the golden verses of the Pythagoreans in Greek; Cato's distiches *De Moribus* in Latin, Lilly's precepts to scholars, called *Qui Mihi*, with many others; and this has been done with very good success. A line or two of this kind, recurring on the memory, have often guarded youth from a temptation to vice and folly, as well as put them in mind of their present duty.

7. It is also by this association of ideas that we may better imprint any new ideas upon the memory, *by joining with it some circumstance of the time, place, company, etc.,*

wherein we first observed, heard, or learned it. If we would recover an absent idea, it is useful to recollect those circumstances of time, place, etc. The substance will many times be recovered and brought to the thoughts by recollecting the shadow: a man recurs to our fancy by remembering his garment, his size or stature, his office or employment, etc. A beast, bird, or fish, by its color, figure or motion, by the cage, court-yard, or cistern wherein it was kept.

To this head also we may refer that remembrance of names and things which may be derived from our recollection of their likeness to other things which we know; either their resemblance in name, character, form, accident, or any thing that belongs to them. An idea or word which has been lost or forgotten, has been often recovered by hitting upon some other kindred word or idea which has the nearest resemblance to it, and that in letters, syllables, or sound of the name, as well as properties of the thing.

If we would remember Hippocrates, or Galen, or Paracelsus, think of a physician's name beginning with H, G, or P. If we will remember Ovidius Naso, we may represent a man with a large nose; if Plato, we may think upon a person with large shoulders, if Crispus, we shall fancy another with curled hair, and so of other things.

And some times a new or strange idea may be fixed in the memory by considering its contrary or opposite. So if we can not hit on the word Goliath, the remembrance of David may recover it; or the name of a Trojan may be recovered by thinking of a Greek, etc.

8. In such cases wherein it may be done, *seek after a local memory*, or a remembrance of what you have read by the side or page where it is written or printed; whether the right or the left, whether at the top, the middle, or the bottom, whether at the beginning of a chapter or a

paragraph, or at the end of it. It has been some advantage, for this reason, to accustom oneself to books of the same edition; and it has been of constant and special use to divines and private Christians to be furnished with several Bibles of the same edition; that wheresoever they are, whether in their chamber, parlor, or study, in the younger or elder years of life, they may find the chapters and verses standing in the parts of the page.

This is also a great convenience to be observed by printers in the new editions of grammars, psalms, Testaments, etc., to print every chapter, paragraph, or verse, in the same part of the page as the former, that so it may yield a happy assistance to those young learners who find, and even feel, the advantages of a local memory.

9. Let every thing we desire to remember be fairly and *distinctly written and divided into periods*, with large characters in the beginning, for by this means we shall the more readily imprint the matter and words on our minds, and recollect them with a glance, the more remarkable the writing appears to the eye. This sense conveys the ideas to the fancy better than any other; and **what we have seen is not so soon forgotten as what we have only heard.** What Horace affirms of the mind or passions may be said also of the memory :

Segnius irritant animos demissa per aurem,
Quam quæ sunt oculis subjecta fidelibus, et quæ
Ipse sibi tradit spectator.

Applied thus in English :

Sounds which address the ear are lost and die
In one short hour; but that which strikes the eye
Lives long upon the mind; the faithful sight
Engraves the knowledge with a beam of light.

For the assistance of weak memories the first letters or words of every period, in every page, may be written in distinct colors: yellow, green, red, black, etc.; and if you

observe the same order of colors in the following sentences, it will be still the better. This will make a greater impression and may much aid the memory.

Under this head we may take notice of the advantage which *the memory gains by having the several objects of our learning drawn out into schemes and tables*: matters of mathematical science and natural philosophy are not only let into the understanding, but preserved in the memory by figures and diagrams. The situation of the several parts of the earth are better learned by one day's conversing with a map or a sea-chart, than by merely reading the description of their situation a hundred times over in books of geography. So the constellations in astronomy, and their position in the heavens, are more easily remembered by hemispheres of the stars well drawn. It is by having such sort of memorials, figures, and tables, hung round our studies or places of residence or resort, that our memory of these things will be greatly assisted and improved, as I have shown at large in the twentieth chapter.

I might add here also, that *once writing over what we design to remember, and giving due attention to what we write, will fix it more in the mind than reading it five times*. And in the same manner, if we had a plan of the naked lines of longitude and latitude projected on the meridian printed for this use, a learner might much more speedily advance himself in the knowledge of geography by his own drawing the figures of all the parts of the world upon it by imitation, than by many days' survey of a map of the world so printed. The same may be said also concerning the constellations of heaven, drawn by the learner on a naked projection of the circles of the sphere upon the plane of the equator.

10. It has sometimes been the practice of men to imprint names or sentences on their memory *by taking the*

first letters of every word of that sentence, or of those names, *and making a new word of them*. So the name of the Maccabees is borrowed from the first letters of the Hebrew words, which make the sentence *Mi Camoka Bealim Jehovah*, *i. e.*, Who is like thee among the gods? which was written on their banners. Jesus Christ our Saviour has been called a fish, in Greek $\text{ixor}\zeta$ by the fathers, because these are the first letters in those Greek words, Jesus Christ, God's Son, the Saviour. So the word *Vibgyor* teaches us to remember the order of the seven original colors, as they appear by the sunbeams cast through a prism on white paper, or formed by the sun in a rainbow, according to the different refrangibility of the rays, *viz.*, violet, indigo, blue, green, yellow, orange, and red.

Other artificial helps to memory may be just mentioned here.

Dr. Grey, in his book called *Memoria Technica*, has exchanged the figures 1, 2, 3, 4, 5, 6, 7, 8, 9, for some consonants, *b, d, t, f, l, y, p, k, n*, and some vowels, *a, c, i, o, u*, and several diphthongs, and thereby formed words that denote numbers, which may be more easily remembered: and Mr. Lowe has improved his scheme in a small pamphlet called *Mnemonics Delineated*; whereby in seven leaves he has comprised almost an infinity of things, in science and in common life, and reduced them to a sort of measure like Latin verse; though the words may be supposed to be very barbarous, being such a mixture of vowels and consonants as are very unfit for harmony.

But after all, the very writers on this subject have confessed that several of those artificial helps of memory are so cumbersome as not to be suitable to every temper or person; nor are they of any use for the delivery of a discourse by memory, nor of much service in learning the sciences: but they may be sometimes practiced for the assisting our remembrance of certain sentences, numbers, and names.

CHAPTER XIV.

OF DETERMINING A QUESTION.

I. WHEN a subject is proposed to your thoughts, consider whether it be knowable at all, or not; and then whether it be not above the reach of your inquiry and knowledge in the present state; and remember, that it is great waste of time to busy yourselves too much amongst unsearchables; the chief use of these studies is to keep the mind humble, by finding its own ignorance and weakness.

II. Consider again whether the matter be worthy of your inquiry at all; and then how far it may be worthy of your present search and labor according to your age, your time of life, your station in the world, your capacity, your profession, your chief design and end. There are many things worth inquiry to one man, which are not so to another; and there are things that may deserve the study of the same person in one part of life, which would be improper or impertinent at another. To read books of the art of preaching, or disputes about church discipline, are proper for a theological student in the end of his academical studies, but not at the beginning of them. To pursue mathematical studies very largely may be useful for a professor of philosophy, but not for a divine.

III. Consider whether the subject of your inquiry be easy or difficult; whether you have sufficient foundation or skill, furniture and advantage for the pursuit of it. It would be madness for a young statuary to attempt at first to carve a Venus or a Mercury, and especially without proper tools. And it is equal folly for a

man to pretend to make great improvements in natural philosophy without due experiments.

IV. Consider whether the subject be any ways useful or not before you engage in the study of it: often put this question to yourselves : *Cui bono?* To what purpose? What end will it attain? Is it for the glory of God, for the good of men, for your own advantage, for the removal of any natural or moral evil, for the attainment of any natural or moral good? Will the profit be equal to the labor? There are many subtle impertinences learned in the schools; many painful trifles, even among the mathematical theorems and problems; many *difficiles nugæ*, or laborious follies of various kinds, which some ingenious men have been engaged in. A due reflection upon these things will call the mind away from vain amusements, and save much time.

V. Consider what tendency it has to make you wiser and better, as well as to make you more learned; and those questions which tend to wisdom and prudence in our conduct among men, as well as piety toward God, are doubtless more important, and preferable beyond all those inquiries which only improve our knowledge in mere speculations.

VI. If the question appear to be well worth your diligent application, and you are furnished with the necessary requisites to pursue it, then consider whether it be dressed up and entangled in more words than is needful, and contain or include more complicated ideas than is necessary; and if so, endeavor to reduce it to a greater simplicity and plainness, which will make the inquiry and argument easier and plainer all the way.

VII. If it be stated in an improper, obscure, or irregular form, it may be meliorated by changing the phrase, or transposing the parts of it; but be careful always to keep the grand and important point of inquiry the

same in your new stating the question. Little tricks and deceits of sophistry, by sliding in or leaving out such words as entirely change the question should be abandoned and renounced by all fair disputants and honest searchers after truth.

The stating a question with clearness and justice goes a great way many times towards the answering it. The greatest part of true knowledge lies in a distinct perception of things which are in themselves distinct; and some men give more light and knowledge by the bare stating of the question with perspicuity and justice, than others by talking of it in gross confusion for whole hours together. **To state a question** is but to separate and disentangle the parts of it from one another, as well as from every thing which does not concern the question, and then lay the disentangled parts of the question in due order and method; oftentimes, without more ado, this **fully resolves the doubt**, and shows the mind where the truth lies, without argument or dispute.

VIII. If the question relate to an axiom, or first principle of truth, remember that a long train of consequences may depend upon it; therefore it should not be suddenly admitted or received.

It is not enough to determine the truth of a proposition, much less to raise it to the honor of an axiom or first principle, to say that it has been believed through many ages, that it has been received by many nations, that it is almost universally acknowledged, or nobody denies it, that it is established by human laws, or that temporal penalties or reproaches will attend the disbelief of it.

IX. Nor is it enough to forbid any proposition the title of axiom, because it has been denied by some persons and doubted of by others; for some persons have been unreasonably credulous, and others have been as

unreasonably skeptical. Then only should a proposition be called an axiom, or a self-evident truth, when, by a moderate attention to the subject and predicate, their connection appears in so plain a light, and so clear an evidence, as needs no third idea, or middle term, to prove them to be connected.

X. While you are in search after truth in questions of a doubtful nature, or such as you have not yet thoroughly examined, keep up a just indifference to either side of the question, if you would be led honestly into the truth: for a desire or inclination leaning to either side biases the judgment strangely: whereas by this indifference for every thing but truth, you will be excited to examine fairly instead of presuming, and your assent will be secured from going beyond your evidence.

XI. For the most part people are born to their opinions, and never question the truth of what their family, or country, or their party profess. They clothe their minds as they do their bodies, after the fashion in vogue, nor one of a hundred ever examined their principles. It is suspected of lukewarmness to suppose examination necessary; and it will be charged as a tendency to apostasy, if we go about to examine them. Persons are applauded for presuming they are in the right, and, as Mr. Locke saith, he that considers and inquires into the reason of things is counted a foe to orthodoxy, because possibly he may deviate from some of the received doctrines. And thus men, without any industry or acquisition of their own (lazy and idle as they are) inherit local truths, *i. e.*, the truths of that place where they live, and are inured to assent without evidence.

This hath a long and unhappy influence; for if a man can bring his mind once to be positive and fierce for propositions whose evidence he hath never examined, and that in matters of the greatest concernment, he will

naturally follow this short and easy way of judging and believing in cases of less moment, and build all his opinions upon insufficient grounds.

XII. In determining a question, especially when it is a matter of difficulty and importance, **do not take up with partial examination**, but turn your thoughts on all sides, to gather in all the light you can towards the solution of it. Take time and use all the helps that are to be attained, before you fully determine, except only where present necessity of action calls for speedy determination.

If you would know what may be called a **partial examination**, take these instances, viz.:

1. *When you examine an object of sense or inquire into some matter of sensation at too great a distance from the object, or in an inconvenient situation of it, or under any indisposition of the organs or any disguise whatsoever relating to the medium or the organ of the object itself, or when you examine it by one sense only, where others might be employed; or when you inquire into it by sense only, without the use of the understanding, and judgment, and reason.*

2. If it be a question which is to be determined by reason and argument, then your examination is partial *when you turn the question only in one light* and do not turn it on all sides: when you look upon it only in its relations and aspects to one sort of object, and not to another; when you consider only the advantages of it, and the reasons for it, and neglect to think of the reasons against it, and never survey its inconveniences too; when you determine on a sudden, before you have given yourself a due time for weighing all circumstances, etc.

3. Again, if it be a question of fact, depending upon the report or testimony of men, your examination is but partial when you inquire only what one man or a few

say, and avoid the testimony of others ; *when you only ask what those report who were not eye or ear witnesses, and neglect those who saw and heard it* ; when you content yourself with mere loose and general talk about it, and never enter into particulars ; or when there are many who deny the fact, and you never concern yourself about their reasons for denying it, but resolve to believe only those who affirm it.

4. There is yet *a further fault* in your partial examination of any question, when you resolve *to determine it by natural reason only*, where you might be assisted by supernatural revelation ; or when you decide the point by some word or sentence, or by some part of revelation without comparing it with other parts, which might give further light and better help to determine the meaning.

5. It is also *a culpable partiality, if you examine* some doubtful or pretended vision, or revelation, *without the use of reason*, or without the use of that revelation which is undoubted and sufficiently proved to be divine. These are all instances of imperfect examination: and we should never determine a question by one or two lights, where we may have the advantage of three or four.

XIII. **Take heed lest some darling notion, some favorite hypothesis, some beloved doctrine, or some common but unexamined opinion, be made a test of the truth or falsehood of all other propositions about the same subject.** Dare not build much upon such a notion or doctrine till it be very fully examined, accurately adjusted, and sufficiently confirmed. Some persons, indulging such a practice, have been led into long ranks of errors ; they have found themselves involved in a train of mistakes, by taking up some petty hypothesis or principle, either in philosophy, politics, or religion, upon slight and insufficient grounds, and establishing that as a test and rule by which to judge of all other things.

XIV. For the same reason, have a care of suddenly determining any one question, on which the determination of any kindred or parallel case will easily or naturally follow. Take heed of receiving any wrong turn in your early judgment of things ; be watchful as far as possible against any false bias, which may be given to the understanding, especially in younger years. The indulgence of some one silly opinion, or the giving credit to one foolish fable, lays the mind open to be imposed upon by many.

The ancient Romans were taught to believe that Romulus and Remus, the founders of their state and empire, were exposed in the woods and nursed by a wolf : this story prepared their minds for the reception of any tales of the like nature relating to other countries. Trojus Pompeius would enforce the belief, that one of the ancient kings of Spain was also nursed and suckled by a hart, from the fable of Romulus and Remus. It was by the same influence they learned to give up their hopes and fears to omens and soothsaying, when they were once persuaded that the greatness of their empire and the glory of Romulus their founder, were predicted by the happy omen of twelve vultures appearing to him when he sought where to build the city. They readily received all the following legends, of prodigies, auguries, and prognostics, for many ages together, with which Livy has furnished his huge history.

So the child who is once taught to believe any one occurrence to be a good or evil omen, or any day of the month or week to be lucky or unlucky, hath a wide inroad made on the soundness of his understanding in the following judgments of his life ; he lies ever open to all the silly impressions and idle tales of nurses, and imbibes many a foolish story with greediness, which he must unlearn again if he ever becomes acquainted with truth and wisdom.

XV. Have a care of interesting your warm and religious zeal in those matters which are not sufficiently evident in themselves, or which are not fully and thoroughly examined and proved ; for this zeal, whether

right or wrong, when it is once engaged will have a powerful influence to establish your own minds in those doctrines which are really doubtful, and to stop up all the avenues of further light. This will bring upon the soul a sort of sacred awe and dread of heresy, with a divine concern to maintain whatever opinion you have espoused as divine, though perhaps you have espoused it without any just evidence, and ought to have renounced it as false and pernicious.

We ought to be zealous for the most important points of our religion, and to contend earnestly for the faith once delivered to the saints ; but we ought not to employ this sacred fervor of spirit in the service of any article till we have seen it made out with plain and strong conviction, that it is a necessary or important point of faith or practice, and is either an evident dictate of the light of nature, or an assured article of revelation. **Zeal must not reign over the powers of our understanding,** but obey them : God is the God of light and truth, a God of reason and order, and He never requires mankind to use their natural faculties amiss for the support of His cause. Even the most mysterious and sublime doctrines of revelation are not to be believed without a just reason for it ; nor should our pious affections be engaged in the defense of them till we have plain and convincing proof that they are certainly revealed, though perhaps we may never in this world attain to such clear and distinct ideas of them as we desire.

XVI. As a warm zeal ought never to be employed in the defense of any revealed truth, till our reason be well convinced of the revelation ; so neither should wit and banter, jest and ridicule, ever be indulged to oppose or assault any doctrines of professed revelation, till reason has proved that they are not really revealed ; and even then these methods should be used very seldom, and

with the utmost caution and prudence. Raillery and wit were never made to answer our inquiries after truth, and to determine a question of rational controversy ; though they may sometimes be serviceable to expose to contempt those inconsistent follies which have been first abundantly refuted by argument ; they serve indeed only to cover nonsense with shame, when reason has first proved it to be mere nonsense.

It is therefore a silly and most unreasonable test which some of our deists have introduced to judge of divine revelation, viz., **to try if it will bear ridicule and laughter.** They are effectually beaten in all their combats at the weapons of men, that is, reason and argument ; and it would not be unjust (though it is a little uncourtly) to say that they would now attack our religion with the talents of a vile animal, that is, grin and grimace.

I can not think that a jester or a monkey, a droll or a puppet, can be proper judges or deciders of controversy. That which dresses up all things in disguise is not likely to lead us into any just sentiments about them. Plato or Socrates, Cæsar or Alexander, might have a fool's coat clapped upon any of them, and perhaps, in this disguise, neither the wisdom of the one, nor the majesty of the other, would secure them from a sneer ; this treatment would never inform us whether they were kings or slaves, whether they were fools or philosophers. **The strongest reasoning, the best sense, and the politest thoughts, may be set in a most ridiculous light by this grinning faculty :** the most obvious axioms of eternal truth may be dressed in a very foolish form, and wrapped up in artful absurdities by this talent ; but they are truth, and reason, and good sense still. Euclid, with all his demonstrations, might be so covered and overwhelmed with banter, that a beginner in the

mathematics might be tempted to doubt whether his theorems were true or not, and to imagine they could never be useful. So, weaker minds might be easily prejudiced against the noblest principles of truth and goodness; and the younger part of mankind might be beat off from the belief of the most serious, the most rational and important points, even of natural religion, by the impudent jests of a profane wit. The moral duties of the civil life, as well as the articles of Christianity, may be painted over with the colors of folly, and exposed upon a stage, so as to ruin all social and personal virtue among the gay and thoughtless part of the world.

XVII. It should be observed also, that **these very men cry out loudly against** the use of all severe railing and reproach in debates, and **all penalties and persecutions of the state**, in order to convince the minds and consciences of men, and determine points of truth and error. Now I renounce these **penal and smarting methods** of conviction as much as they do, and yet I think still **these are every whit as wise, as just, and as good** for this purpose as **banter and ridicule**. Why should public mockery in print, or a merry joke upon a stage, be a better test of truth than severe, railing sarcasm, and public persecutions and penalties? Why should more light be derived to the understanding by a song of scurrilous mirth, or a witty ballad, than there is by a rude cudgel? When a professor of any religion is set up to be laughed at, I can not see how this should help us to judge of the truth of his faith any better than if he were scourged. The jeers of a theater, the pillory, and the whipping-post are very near akin. When the person or his opinion is made the jest of the mob, or his back the shambles of the executioner, I think there is no more conviction in the one than in the other.

XVIII. Besides, supposing it is but barely possible

that the great God should reveal His mind and will to men by miracle, vision, or inspiration, it is a piece of contempt and profane insolence to treat any tolerable or rational appearance of such a revelation with jest and laughter, in order to find whether it be divine or not. And yet, if this be a proper test of revelation, it may be properly applied to the true as well as the false, in order to distinguish it. Suppose a royal proclamation was sent to a distant part of the kingdom, and some of the subjects should doubt whether it came from the king or not; is it possible that wit and ridicule should ever decide the point? Or would the prince ever think himself treated with just honor to have his proclamation canvassed in this manner on a public stage, and become the sport of buffoons, in order to determine the question, Whether it is the word of a king or not?

Let such a sort of writers go on at their dearest peril, and sport themselves in their own deceivings; let them at their peril make a jest at the Bible, and treat the sacred articles of Christianity with scoff and merriment: but then let them lay aside all their pretences to reason as well as religion.

XIX. In reading philosophical, moral, or religious controversies, never raise your esteem of any opinion by the assurance and zeal wherewith the author asserts it, nor by the highest praises he bestows upon it; nor, on the other hand, let your esteem of an opinion be abated, nor your aversion to it raised by the supercilious contempt cast upon it by a warm writer, nor by the sovereign airs with which he condemns it. Let the force of argument alone influence your assent or dissent. Take care that your soul be not warped or biased on one side or the other by any strains of flattering or abusive language; for there is no question whatsoever but what hath some such sort of defenders and opposers.

Leave those writers to their own follies who practice thus upon the weakness of their readers without argument; leave them to triumph in their own fancied possessions and victories: it is oftentimes found that their possessions are but a heap of errors, and their boasted victories are but overbearing noise and clamor to silence the voice of truth.

In philosophy and religion the bigots of all parties are generally the most positive, and deal much in this sort of argument. Sometimes these are the weapons of pride, for a haughty man supposes all his opinions to be infallible, and imagines the contrary sentiments are ever ridiculous and not worthy of notice. Sometimes these ways of talking are the mere arms of ignorance: the men who use them know little of the opposite side of the question, and therefore they exult in their own vain pretenses to knowledge, as though no man of sense could oppose their opinions. They rail at an objection against their own sentiments, because they can find no other answer to it but railing. And men of learning, by their excessive vanity, have been sometimes tempted into the same insolent practice as well as the ignorant.

Yet let it be remembered too, that there are some truths so plain and evident, that the opposition to them is strange, unaccountable, and almost monstrous; and in vindication of such truths a writer of good sense may sometimes be allowed to use a degree of assurance, and pronounce them strongly with an air of confidence, while he defends them with reasons of convincing force.

XX. Sometimes a question may be proposed which is of so large and extensive a nature, and refers to such a multitude of subjects, as ought not in justice to be determined at once by a single argument or answer: as if one should ask me, Are you a professed disciple of the Stoics or the Platonists? Do you receive an assent to

the principles of Gassendus, Descartes, or Sir Isaac Newton? Have you chosen the hypothesis of Tycho or Copernicus? Have you devoted yourself to the sentiments of Arminius, or Calvin? Are your notions episcopal, presbyterian, or independent, etc.? I think it may be very proper in such cases not to give an answer in the gross, but rather to enter into a detail of particulars and explain one's own sentiments. Perhaps there is no man, nor set of men upon earth, whose sentiments I entirely follow. God has given me reason to judge for myself; and though I may see sufficient ground to agree to the greatest part of the opinions of one person or party, yet it does by no means follow that I should receive them all. Truth does not always go by the lump, nor does error tincture and spoil all the articles of belief that some one party professes.

Since there are difficulties attending every science of human knowledge, it is enough for me in the main to incline to that side which has the fewest difficulties; and I would endeavor, as far as possible, to correct the mistakes or the harsh expressions of one party, by softening and reconciling methods, by reducing the extremes, and by borrowing some of the best principles or phrases from another. Cicero was one of the greatest men of antiquity, and gives us an account of the various opinions of philosophers in his age; but he himself was of the eclectic sect, and chose out of each of them such positions as in his wisest judgment came nearest to the truth.

XXI. When you are called in the course of life or religion to judge and determine concerning any question, and to affirm or deny it, take a full survey of the objections against it, as well as the arguments for it, as far as your time and circumstances admit, and see on which side the preponderation falls. If either the objections against any proposition, or the arguments for the defense

of it, carry in them most undoubted evidence, and are plainly unanswerable, they will and ought to constrain the assent, though there may be many seeming probabilities on the other side, which at first sight would flatter the judgment to favor it. But where the reasons on both sides are very near of equal weight, there suspension or doubt is our duty, unless in cases wherein present determination or practice is required, and there we must act according to the present appearing preponderation of reasons.

XXII. In matters of moment and importance, it is our duty indeed to seek after certain and conclusive arguments (if they can be found) in order to determine a question; but where the matter is of little consequence, it is not worth our labor to spend much time in seeking after certainties; it is sufficient here, if probable reasons offer themselves. And even in matters of greater importance, especially where daily practice is necessary, and where we can not attain any sufficient or certain grounds to determine a question on either side, we must then take up with such probable arguments as we can arrive at. But this general rule should be observed, viz. to take heed that our assent be no stronger, or rise no higher in the degree of it, than the probable argument will support.

XXIII. There are many things even in religion, as well as in philosophy and civil life, which we believe with very different degrees of assent; and this is, or should be, always regulated according to the different degrees of evidence which we enjoy: and perhaps there are a thousand gradations in our assent to the things we believe, because there are thousands of circumstances relating to different questions, which increase or diminish the evidence we have concerning them, and that in matters both of reason and revelation.

This direction can not be too often repeated, that our assent ought always to keep pace with our evidence; and our belief of any proposition should never rise higher than the proof or evidence we have to support it, nor should our faith run faster than right reason can encourage it.

XXIV. Perhaps it will be objected here, **Why then does our Saviour, in the histories of the Gospel so much commend a strong faith, and lay out both His miraculous benefits and His praises upon some of those poor creatures of little reasoning who professed an assured belief of His commission and power to heal them?**

I answer the God of nature has given every man his own reason to be the judge of evidence to himself in particular, and to direct his assent in all things about which he is called to judge; and even the matters of revelation are to be believed by us because our reason pronounces the revelation to be true. Therefore, the great God will not, or can not, in any instance, require us to assent to any thing without reasonable or sufficient evidence; nor to believe any proposition more strongly than what our evidence for it will support. We have therefore abundant ground to believe, that those persons of whom our Saviour requires such strong faith, or whom He commends for their strong faith, had as strong and certain evidence of His power and commission from the credible and incontestable reports they had heard of His miracles, which were wrought on purpose to give evidence to His commission. Now in such a case, both this strong faith and the open profession of it were very worthy of public encouragement and praise from our Saviour, because of the great and public opposition which the magistrates, and the priests, and the doctors of the age made against Jesus, the man of Nazareth, when He appeared as the Messiah.

And besides this it may be reasonably supposed, with regard to some of those strong exercises of faith which are required and commended, that these believers had some further hints of inward evidence and immediate revelation from God Himself; as when St. Peter confesses Christ to be the Son of God, Matt. 16 : 16, 17, our blessed Saviour commends him saying, "Blessed art thou, Simon Barjona;" but He adds, "Flesh and blood hath not revealed it unto thee, but my Father who is in heaven."

And the same may be said concerning the faith of miracles, the exercise whereof was sometimes required of the disciples and others, *i. e.*, when by inward and divine influences God assured them such miracles should be wrought, their obedience to and compliance with these divine illuminations was expected and commended. Now this supernatural inspiration carried sufficient evidence with it to them, as well as to the ancient prophets, though we who never felt it are not so capable to judge and distinguish it.

XXV. What is said before concerning **truth** or doctrines, may be also confirmed concerning **duties**; the **reason of both is the same**; as the one are truths for our speculation, the others are truths for our practice. Duties which are expressly required in the plain language of Scripture or dictated by the most evident reasoning upon first principles, ought to bind our consciences more than those which are but dubiously inferred, and that only from occasional occurrences, incidents, and circumstances: as for instance, I am certain that I ought to pray to God; my conscience is bound to this, because there are most evident commands for it to be found in Scripture, as well as to be derived from reason. I believe also, that I may pray to God either by a written form or without one, because neither reason nor

revelation expressly requires either of these modes of prayer at all times, or forbids the other. I can not, therefore, bind my conscience to practice the one so as utterly to renounce the other; but I would practice either of them as my reason and other circumstances direct me.

XXVI. We may observe these three rules in judging of probabilities which are to be determined by reason, relating either to things past or things to come.

1. *That which agrees most with the constitution of nature* carries the greatest probability in it, where no other circumstance appears to counterpoise it: as if I let loose a greyhound within sight of a hare upon a large plain, there is great probability the greyhound will seize her; a thousand sparrows will fly away at the sight of a hawk among them.

2. *That which is most conformable to the constant observation of men*, or to experiment frequently repeated, is most likely to be true: as that a winter will not pass away in England without some frost and snow; that if you deal out great quantities of strong liquor to the mob, there will be many drunk; that a large assembly of men will be of different opinions in any doubtful point; that a thief will make his escape out of prison if the doors of it are unguarded at midnight.

3. In matters of fact, which are past or present, where neither nature, nor observation, nor custom, gives us any sufficient information on either side of the question, *there we may derive a probability from the attestation of wise and honest men*, by word or writing, or the concurring witnesses of multitudes who have seen and known what they relate, etc. This testimony in many cases will arise to the degree of moral certainty. So we believe that the tea-plant grows in China; and that the Emperor of the Turks lives at Constantinople; that Julius Cæsar con-

quered France ; that Jesus our Saviour lived and died in Judea ; that thousands were converted to the Christian faith in a century after the death of Christ ; and that the books which contain the Christian religion are certain histories and epistles which were written above a thousand years ago. There is an infinite variety of such propositions which can admit of no reasonable doubt, though they are not matters which are directly evident to our own senses or our mere reasoning powers.

XXVII. When a point hath been well examined, and our own judgment settled upon just arguments in our manly age, and after a large survey of the merits of the cause, it would be a weakness for us always to continue fluttering in suspense. **We ought therefore to stand firm in such well-established principles,** and not be tempted to change and alter for the sake of every difficulty, or every occasional objection. We are not to be carried about with every flying doctrine, like children tossed to and fro, and wavering with the wind. It is a good thing to have the heart established with grace, not with meats ; that is, in the great doctrines of the Gospel of grace, and in Jesus Christ, who is the same yesterday, to-day, and for ever ; but it is not so necessary in the more minutematters of religion, such as meats and drink, forms and ceremonies, which are of less importance, and for which Scripture has not given such express directions. This is the advice of the great apostle, Eph. 14; Heb. 13: 8, 9.

In short, those truths which are the springs of daily practice should be settled as soon as we can with the exercise of our best powers after the state of manhood : but those things wherein we may possibly mistake should never be so absolutely and finally established and determined as though we were infallible.

XXVIII. But let us remember also, that though the

Gospel be an infallible revelation, we are but fallible interpreters when we determine the sense even of some important propositions written there; and therefore, though we seem to be established in the belief of any particular sense of Scripture and though there may be just calls of Providence to profess and subscribe it, yet there is no need that we should resolve or promise, subscribe or swear, never to change our mind, since it is possible, in the nature and course of things, we may meet with such a solid and substantial objection as may give us a quite different view of things from what we once imagined, and we may lay before us sufficient evidence of the contrary. We may happen to find a fairer light cast over the same Scriptures and see reason to alter our sentiments even in some points of moment. *Sic sentio, sic sentiam*, i. e., so I believe, and so I will believe, is the prison of the soul for life-time and a bar against all the improvements of the mind. To impose such a profession on other men in matters not absolutely necessary, and not absolutely certain, is a criminal usurpation and tyranny over faith and conscience, and which none has power to require but an infallible dictator.

CHAPTER XV.

OF INQUIRING INTO CAUSES AND EFFECTS.

SOME effects are found out by their causes, and some causes by their effects. Let us consider both these.

I. When we are inquiring into the cause of any particular effect or appearance, either in the world of nature, or in the civil or moral concerns of men, we may follow this method:

1. Consider *what effects* or appearances *you have known of a kindred nature*, and what have been the certain and

real causes of them ; for like effects have generally like causes, especially when they are found in the same sort of subjects.

2. Consider *what are the several possible causes* which may produce such an effect, and find out by some circumstances how many of those possible causes are excluded in this particular case : Thence proceed by degrees to the probable causes, till a more close attention and inspection shall exclude some of them also, and lead you gradually to the real and certain cause.

3. Consider *what things preceded* such an event or appearance, which might have any influence upon it; and though we can not certainly determine the cause of any thing only from its going before the effect, yet among the many forerunners we may probably light upon the true cause by further and more particular inquiry.

4. Consider *whether one cause be sufficient* to produce the effect, or whether it does not require *a concurrence of several causes*; and then endeavor as far as possible to adjust the degrees of influence that each cause might have in producing the effect, and the proper agency and influence of each of them therein.

So in natural philosophy, if I would find what are principles or causes of that sensation which we call heat when I stand near the fire; here I shall find it is necessary that there be an agency of the particles of fire on my flesh, either mediately by themselves, or at least by the intermediate air; there must be a particular sort of motion and vellication impressed upon my nerves; there must be a derivation of that motion to the brain; and there must be an attention of my soul to this motion; if either of these are wanting, the sensation of heat will not be produced.

So in the moral world, if I inquire into the revolution of a state or kingdom, perhaps I find it brought about by

the tyranny and folly of a prince, or by the disaffection of his own subjects; and this disaffection and opposition may arise either upon the account of impositions in religion, or injuries relating to their civil rights; or the revolution may be effected by the invasion of a foreign army, or by the opposition of some person at home or abroad that lays claim to the government, etc., or a hero who would guard the liberties of the people; or by many of these concurring together: then we must adjust the influences of each as wisely as we can, and not ascribe the whole event to one of them alone.

II. When we are inquiring into the effects of any particular cause or causes, we may follow this method:

1. Consider diligently *the nature of every cause apart*, and observe what effect every part or property of it will tend to produce.

2. Consider *the causes united together* in their several natures, and ways of operation: inquire how far the powers or properties of one will hinder or promote the effects of the other, and wisely balance the propositions of their influence.

3. Consider *what the subject is*, in or upon which the cause is to operate: for the same cause on different subjects will oftentimes produce different effects; as the sun which softens wax will harden clay.

4. *Be frequent and diligent* in making all proper experiments, *in setting such causes at work, whose effects you desire to know*, and putting together in an orderly manner such things as are most likely to produce some useful effects, according to the best survey you can take of all the concurring causes and circumstances.

5. *Observe carefully* all the events which happen either by an occasional concurrence of various causes, or by the industrious applications of knowing men: and *when you see any happy effect* certainly produced, and often re-

peated, *treasure it up*, together with the known causes of it, amongst your improvements.

6. *Take a just survey of all the circumstances* which attend the operation of any cause or causes, whereby any special effect is produced: and find out as far as possible how far any of those circumstances had a tendency either to obstruct, promote or change those operations, and consequently how far the effect might be influenced by them.

In this manner physicians practice and improve their skill. They consider the various known effects of particular herbs or drugs, they meditate what will be the effects of their composition, and whether the virtues of the one will exalt or diminish the force of the other, or correct any of its nocent qualities. Then they observe the native constitution, and the present temper or circumstances of the patient, and what is likely to be the effect of such a medicine on such a patient. And in all uncommon cases they make wise and cautious experiments, and nicely observe the effects of particular compound medicines on different constitutions and in different diseases, and by these treasures of just observations they grow up to an honorable degree of skill in the art of healing. *So the preacher* considers the doctrines and reasons, the precepts, the promises and threatenings of the word of God, and what are the natural effects of them upon the mind; he considers what is the natural tendency of such a virtue, or such a vice; he is well apprised that the representation of some of these things may convince the understanding, some may terrify the conscience, some may allure the slothful, and some encourage the desponding mind; he observes the temper of his hearers, or of any particular person that converses with him about things sacred, and he judges what will be the effects of each representation on such persons; he

reviews and recollects what have been the effects of some special parts and methods of his ministry; and by a careful survey of all these he attains greater degrees of skill in his sacred employment.

Note: In all these cases we must distinguish those causes and effects which are naturally and necessarily connected with each other, from those which have only an accidental or contingent connection. Even in those causes where the effect is but contingent, we may sometimes arrive at a very high degree of probability; yet we can not arrive at such certainty as where the causes operate by an evident and natural necessity, and the effects necessarily follow the operation.

CHAPTER XVI.

METHODS OF TEACHING AND READING LECTURES.

I. He that has learned any thing thoroughly, in a clear and methodical manner, and has attained a distinct perception, and an ample survey of the whole subject, is generally best prepared to teach the same subject in a clear and easy method: for having acquired a large and distinct idea of it himself, and made it familiar to him by frequent meditation, reading, and occasional discourse, he is supposed to see on all sides, to grasp it, with all its appendices and relations, in one survey, and is better able to represent it to the learner in all its views, with all its properties, relations, and consequences. He knows which view or side of a subject to hold out first to his disciple, and how to propose to his understanding that part of it which is easiest to apprehend; and also knows how to set it in such a light as is most likely to allure and to assist his further inquiry.

II. But it is not every one who is a great scholar that always becomes the happiest teacher, even though he may have a clear conception, and a methodical as well as an extensive survey of the branches of any science. He must also be well acquainted with words, as well as ideas, in a proper variety, that when his disciple does not take in the ideas of one form of expression, he may change the phrase into several forms, till at last he hits the understanding of his scholar and enlightens it in the just idea of truth.

III. Besides this, a tutor should be a person of a happy and condescending temper, who has patience to bear with a slowness of perception or want of sagacity in some learners. He should also have much candor of soul to pass a gentle censure on their impertinences, and to pity them in their mistakes, and use every mild and engaging method for insinuating knowledge into those who are willing and delight in seeking truth, as well as reclaiming those who are wandering in error.

But of this I have spoken somewhat already in a former chapter, and shall have occasion to express somewhat more of it shortly.

IV. A very pretty and useful way to lead a person into any particular truth is, by questions and answers, which is the Socratical method of disputation. On this account dialogues are used as a polite and pleasant mode of leading gentlemen and ladies into some of the sciences, who seek not the most accurate and methodical measure of learning.

Now, the advantages of this method are very considerable.

1. It represents *the form of a dialogue* or common conversation, which is a much more easy, more pleasant, and a more sprightly way of instruction, and more fit to excite the attention and sharpen the penetration of the

learner, than solitary reading or silent attention to a lecture. Man, being a sociable creature, delights more in conversation, and learns better this way, if it could always be wisely and happily practiced.

2. This method hath *something very obliging in it*, and carries a very humble and condescending air, when he that instructs seems to be the inquirer, and seeks information from him who learns.

3. It leads the learner into the knowledge of truth as it were by his own invention, which is a very pleasing thing to human nature: and by questions pertinently and artificially proposed, it does as effectually *draw him on to discover his own mistakes*, which he is much more easily persuaded to relinquish when he seems to have discovered them himself.

4. It is managed in a great measure in the form of *the most easy reasoning*, always arising from something asserted or known in the foregoing answer, and so proceeding to inquire something unknown in the following question, which again makes way for the next answer. Now, such an exercise is very alluring and entertaining to the understanding, while its own reasoning powers are all along employed, and that without labor or difficulty, because, the querist finds out and proposes all the intermediate ideas or middle terms.

V. But the most useful, and perhaps the most excellent way of instructing students in any of the sciences, is by reading lectures, as tutors in the academy do to their pupils.

The first work is to choose a book well written, which contains a short scheme or abstract of that science, or at least it should not be a very copious and diffusive treatise. Or if the tutor knows not any such book already written, he should draw up an abstract of that science himself, containing the most substantial and im-

portant parts of it, disposed in such a method as he best approves.

Let a chapter or section of this be read daily by the learner, on which the tutor should paraphrase in this manner, namely :

VI. He should explain both words and ideas more largely ; and especially **what is dark and difficult** should be opened and illustrated, partly by various forms of speech, and partly by apt similitudes and examples. Where the sense of the author is dubious, it must also be fixed and determined.

Where the arguments are strong and cogent, they should be enforced by some further paraphrase, and the truth of the inferences should be made plainly to appear. Where the arguments are weak and insufficient, they should be either confirmed or rejected as useless ; and new arguments, if need be, should be added to support that doctrine.

What is treated very concisely in the author should be amplified : and where several things are laid closely together, they must be taken to pieces and opened by parts.

Where the tutor differs from the author which he reads, he should gently point out and confute his mistakes.

Where the method and order of the book is just and happy, it should be pursued and commended ; where it is defective and irregular, it should be corrected.

The most necessary, the most remarkable and useful parts of that treatise, or of that science, should be peculiarly recommended to the learners and pressed upon them that they would retain it in memory ; and what is more necessary or superfluous should be distinguished, lest the learner should spend too much time in the more needless parts of a science.

The various ends, uses, and services of that science, or of any part of it, should also be declared and exemplified, as far as the tutor hath opportunity and furniture to do it; particularly in mathematics and natural philosophy.

And if there be any thing remarkably beautiful or defective in the style of the writer, it is proper for the tutor to make a just remark upon it.

While he is reading and explaining any particular treatise to his pupils, he may compare the different editions of the same book, or different writers upon the same subject; he should inform them where that subject is treated by other authors which they may peruse, and lead his disciples thereby to a further elucidation, confirmation, or improvement of that theme of discourse in which he is instructing them.

VII. It is alluring and agreeable to the learner also, now and then, to be entertained with some historical remarks on any occurrences or useful stories which the tutor has met with, relating to the several parts of such a science; provided he does not put off his pupils merely with such stories, and neglect to give them a solid and rational information of the theme in hand. **Teachers should endeavor, as far as possible, to join profit and pleasure together,** and mingle delight with their instructions, but at the same time they must take heed that they do not merely amuse the ears and gratify the fancy of their disciples without enriching their minds.

In reading lectures of instruction, **let the teacher be very solicitous that the learners take up his meaning;** and therefore he should frequently inquire whether he expresses himself intelligibly? whether they understand his sense, and take in all his ideas as he endeavors to convey them in his own forms of speech?

VIII. It is necessary that **he who instructs others**

should use the most proper style for the conveyance of his ideas easily into the minds of those who hear him; and though in teaching the sciences, a person is not confined to the same rules by which we must govern our language in conversation, for he must necessarily make use of many terms of art and hard words, yet he should never use them merely to show his learning, nor affect sounding language without necessity, a caution which we shall further inculcate anon.

I think it very convenient and proper, if not absolutely necessary, that when a tutor reads a following lecture to his pupils, he should run over the foregoing lecture in questions proposed to them, and by this means acquaint himself with their daily proficiency. It is in vain for the learner to object, Surely we are not school-boys, to say our lessons again; we came to be taught, not to be catechised and examined. But, alas! how is it possible for a teacher to proceed in his instructions, if he knows not how far the learner takes in and remembers what he has been taught?

Besides, I must generally believe it is sloth or idleness, it is real ignorance, incapacity, or unreasonable pride, that makes a learner refuse to give his teacher an account how far he has profited by his last instructions. For want of this constant examination young gentlemen have spent some idle and useless years, even under daily labors and inspections of a learned teacher; and they have returned from the academy without the gain of any one science, and even with the shameful loss of their classical learning, that is, the knowledge of Greek and Latin, which they had learned in the grammar school.

IX. Let the teacher always accommodate himself to the genius, temper, and capacity of his disciples, and practice various methods of prudence to allure, persuade, and assist every one of them in their pursuit of knowledge.

Where the scholar has less capacity, let the teacher enlarge his illustrations ; let him search and find out where the learner sticks, what is the difficulty, and thus let him help the laboring intellect.

When the learner manifests a forward genius and a sprightly curiosity by frequent inquiries, let the teacher oblige such an inquisitive soul by satisfying those questions as far as may be done with decency and convenience ; and when these inquiries are unseasonable, let him not silence the young inquirer with a magisterial rebuff, but with much candor and gentleness postpone those questions, and refer them to a proper hour.

X. Curiosity is a useful spring of knowledge : it should be encouraged in children, and awakened by frequent and familiar methods of talking with them. It should be indulged in youth, but not without a prudent moderation. In those who have too much, it should be limited by a wise and gentle restraint or delay, lest by wandering after every thing, they learn nothing to perfection. In those who have too little, it should be excited, lest they grow stupid, narrow-spirited, self-satisfied, and never attain a treasure of ideas, or an amplitude of understanding.

Let not the teacher demand or expect things too sublime and difficult from the humble, modest, and fearful disciple : and where such a one gives a just and happy answer, even to plain and easy questions, let him have words of commendation and love ready for him. Let him encourage every spark of kindling light, till it grows up to bright evidence and confirmed knowledge.

XI. When he finds a lad pert, positive, and presuming, let the tutor take every just occasion to show him his error ; let him set the absurdity in complete light before him, and convince him by a full demonstration of his mistake, till he sees and feels it, and learns to be modest and humble.

XII. A teacher should not only observe the different spirit and humor among his scholars, but **he should watch the various efforts of their reason and growth of their understanding.** He should practice in his young nursery of learning as a skillful gardener does in his vegetable dominions, and apply prudent methods of cultivation to every plant. Let him with a discreet and gentle hand nip or prune the irregular shoots ; let him **guard and encourage the tender buddings** of the understanding, till they be raised to a blossom, and let him kindly cherish the younger fruits.

The tutor should take every occasion to instill knowledge into his disciples, and make use of every occurrence of life to raise some profitable conversation upon it ; he should frequently inquire something of his disciples that may set their young reason to work, and teach them how to form inferences and to draw one proposition out of another.

XIII. Reason being that faculty of the mind which he has to deal with in his pupils, let him endeavor by all proper and familiar methods to **call it into exercise,** and to enlarge the powers of it. He should take frequent opportunities to show them when an idea is clear or confused, when the proposition is evident or doubtful, and when an argument is feeble or strong. And by this means their minds will be so formed, that whatsoever he proposes with evidence and strength of reason they will readily receive.

When any uncommon appearance arise in the natural, moral, or political world, he should invite and instruct them to make their remarks on it, and give them the best reflections of his own for the improvement of their minds.

XIV. He should by all means make it appear that he loves his pupils, and that he seeks nothing so

much as their increase of knowledge and their growth in all valuable acquirements; this will engage their affection to his person, and procure a just attention to his lectures.

XV. And indeed there is but little hope that a teacher should obtain any success in his instructions, unless those that hear him have some good degree of esteem and respect for his person and character. And here I can not but take notice by the way, that it is a matter of infinite and unspeakable injury to the people of any town or parish where the minister lies under contempt. If he has procured it by his own conduct he is doubly criminal, because of the injury he does to the souls of them that hear him: but if this contempt and reproach be cast upon him by the wicked, malicious, and unjust censures of men, they must bear all the ill consequences of receiving no good by his labors, and will be accountable hereafter to the great and divine Judge of all.

It would be very necessary to add in this place (if tutors were not well apprised of it before) that since learners are obliged to seek a divine blessing on their studies by frequent prayer to the God of all wisdom, their tutors should go before them in this pious practice and make daily addresses to Heaven for the success of their instructions

CHAPTER XVII.

OF AN INSTRUCTIVE STYLE.

I. The most necessary and useful character of a style fit for instruction is that it be plain, perspicuous and easy. And here I shall first point out all those errors in a style which diminish or destroy the perspicuity

of it, and then mention a few directions how to obtain a perspicuous and easy style.

II. The **errors of style**, which must be avoided by teachers, are these that follow:

1. *The use of many foreign words*, which are not sufficiently naturalized and mingled with the language which we speak or write. It is true, that in teaching the sciences in English, we must sometimes use words borrowed from the Greek and Latin; for we have not in English, names for a variety of subjects which belong to learning; but when a man affects, upon all occasions, to bring in long-sounding words from the ancient languages, without necessity, and mingles French and other outlandish terms and phrases, where plain English would serve as well, he betrays a vain and foolish genius, unbecoming a teacher.

2. *Avoid a fantastic learned style*, borrowed from the various sciences, where the subject and matter do not require the use of them. Do not affect terms of art on every occasion, nor seek to show your learning by sounding words and dark phrases; this is properly called pedantry. It would be well if the quacks alone had a patent for this language.

3. There are some fine *affected words that are used only at court*; and some peculiar phrases that are sounding or gaudy, and belong only to the theater; these should not come into the lectures of instruction; the language of poets has too much of metaphor in it to lead mankind into clear and distinct ideas of things: the business of poesy is to strike the soul with a glaring light, and to urge the passions into a flame by splendid shows, by strong images, and a pathetic vehemence of style: but it is another sort of speech that is best suited to lead the calm inquirer into just conceptions of things.

4. There is a *mean vulgar style*, borrowed from the lower

ranks of mankind, the basest characters, and meanest affairs of life; this is also to be avoided; for it should be supposed, that persons of liberal education have not been bred up within the hearing of such language, and consequently they can not understand it; besides that it would create very offensive ideas, should we borrow even similes for illustration from the scullery, the dung-hill, and the jakes.

5. *An obscure and mysterious manner of expression* and cloudy language is to be avoided. Some persons have been led by education, or by some foolish prejudices, into a dark and unintelligible way of thinking and speaking; and this continues with them all their lives. and clouds and confounds their ideas.

Perhaps some of these may have been blessed with a great and comprehensive genius, with sublime natural parts, and a torrent of ideas flowing in upon them; yet for want of clearness in the manner of their conception and language, they sometimes drown their own subject of discourse, and overwhelm their argument in darkness and perplexity: such preachers as have read much of the mystical divinity of the papists and imitated their manner of expression, have many times buried a fine understanding under the obscurity of such a style.

6. *A long and tedious style* is very improper for a teacher, for this also lessens the perspicuity of it.

He that would gain a happy talent for the instruction of others must know how to disentangle and divide his thoughts, if too many of them are ready to crowd into one paragraph; and let him rather speak three sentences distinctly and perspicuously, which the hearer receives at once with his ears and his soul, than crowd all the thoughts into one sentence, which the hearer has forgotten before he can understand it.

III. But this leads me to the next thing I proposed, which was to mention **some methods whereby** such a perspicuity of style may be obtained as is proper for instruction.

1. *Accustom yourself to read those authors who think and write with great clearness* and evidence, such as convey their ideas into your understanding as fast as your eye or tongue can run over their sentences: this will imprint upon the mind a habit of imitation; we shall learn the style with which we are very conversant, and practice it with ease and success.

2. *Get a distinct and comprehensive knowledge of the subject* which you treat of, survey it on all sides, and make yourself perfect master of it; then you will have all the sentiments that relate to it in your view and under your command; and your tongue will very easily clothe those ideas with words which your mind has first made so familiar and easy to itself.

Scribendi recte sapere est et principium et fons:
Verbaque provisam rem non invita sequentur.

Hor. de Art Poetica.

Good teaching from good knowledge springs;
Words will make haste to follow things.

3. *Be well skilled in the language* which you speak, acquaint yourself with all the idioms and special phrases of it, which are necessary to convey the needful ideas on the subject of which you treat in the most various and most easy manner to the understanding of the hearer: the variation of a phrase in several forms is of admirable use to instruct; it is like turning all sides of the subject to view; and if the learner happen not to take in the ideas in one form of speech, probably another may be successful for that end.

Upon this account I have always thought it a useful manner of instruction, which is used in some Latin schools, which they call variation. Take some plain sentence in the English

tongue, and turn it into many forms in Latin ; as for instance, A wolf let into the sheepfold will devour the sheep ; If you let a wolf into the fold, the sheep will be devoured : The wolf will devour the sheep, if the sheepfold be left open : If the fold be not shut carefully, the wolf will devour the sheep. The sheep will be devoured by the wolf, if it find the way into the fold open : There is no defense of the sheep from the wolf, unless it be kept out of the fold : A slaughter will be made among the sheep, if the wolf can get into the fold. Thus by turning the active voice of verbs into the passive, and the nominative case of nouns into the accusative, and altering the connection of short sentences by different adverbs or conjunctions, and by ablative cases with a preposition brought instead of the nominative, or by participles sometimes put instead of the verbs, the negation of the contrary instead of the assertion of the thing first proposed, a great variety of forms of speech will be created which shall express the same sense.

4. *Acquire a variety of words, a copia verborum.* Let your memory be rich in synonymous terms, or words expressing the same thing : this will not only attain the same happy effect with its variation of phrases in the foregoing direction, but it will add a beauty also to your style, by securing you from an appearance of tautology, or repeating the same words too often, which sometimes may disgust the ear of the learner.

5. *Learn the art of shortening your sentences* by dividing a long complicated period into two or three small ones : When others connect and join two other sentences in one by relative pronouns, as, *which, whereof, wherein, whereto*, etc., and by parentheses frequently inserted, do you rather divide them into distinct periods ; or at least, if they must be united, let it be done rather by conjunctions and copulative, that they may appear like distinct sentences, and give less confusion to the hearer or reader.

I know no method so effectual to learn what I mean as to take now and then some page of an author, who is guilty of such a long involved parenthetical style, and translate it into plainer English, by dividing the ideas or the sentences asunder, and multiplying the periods, till

the language becomes smooth and easy, and intelligible at first reading.

6. *Talk frequently to young and ignorant persons upon subjects which are new and unknown to them, and be diligent to inquire whether they understand you or not: this will put you upon changing your phrases and forms of speech in a variety, till you can hit their capacity, and convey your idea into their understanding.*

CHAPTER XVIII.

OF CONVINCING OTHER PERSONS OF ANY TRUTH, OR DELIVERING THEM FROM ERRORS AND MISTAKES.

I. WHEN we are arrived at a just and rational establishment in an opinion, whether it relate to religion or common life, we are naturally desirous of bringing all the world into our sentiments; and this proceeds from the affectation and pride of superior influence upon the judgment of our fellow creatures, much more frequently than it does from a sense of duty, or a love of truth; so vicious and corrupt is human nature. Yet there is such a thing to be found as an honest and sincere delight in propagating truth, arising from a dutiful regard to the honors of our Maker, and a hearty love to mankind. Now, if we would be successful in our attempts to convince men of their errors and promote the truth, let us divest ourselves, as far as possible, of that pride and affectation which I mentioned before; and seek to acquire that disinterested love to men, and zeal for the truth, which will naturally lead us into the best methods to promote it.

II. And here the following directions may be useful:

1. If you would convince a person of his mistake, choose a proper place, a happy hour, and the fittest concurrent circumstance for this purpose. Do not unseasonably set upon him when he is engaged in the midst of other affairs, but when his soul is at liberty and at leisure to hear and attend. Accost him not upon that subject when his spirit is ruffled or discomposed with any occurrences of life, and especially when he has heated his passions in the defense of a contrary opinion ; but rather seize some golden opportunity, when some occurrences of life may cast a favorable aspect upon the truth of which you will convince him, or which may throw some dark and unhappy color or consequences upon that error from which you would fain deliver him. There are in life some *mollissima tempora fandi*, some very agreeable moments of addressing a person, which, if rightly managed, may render your attempts much more successful, and his conviction easy and pleasant.

2. *Make it appear*, by your whole conduct to the person you would teach, *that you mean him well* ; that your design is not to triumph over his opinion, nor expose his ignorance, or his incapacity of defending what he asserts. Let him see that it is not your aim to advance your own character as a disputant ; nor to set yourself up for an instructor of mankind ; but that you love him and seek his true interest ; and do not only assure him of this in words, when you are entering on an argument with him, but let the whole of your conduct to him at all times demonstrate your real friendship for him. Truth and argument come with particular force from the mouth of one whom we trust and love.

3. *The softest and gentlest address to the erroneous is the best way to convince* them of their mistake. Sometimes it is necessary to represent to your opponent that he is not far from the truth, and that you would fain draw him a

little nearer to it. Commend and establish whatever he says that is just and true, as our blessed Saviour treated the young scribe, when he answered well concerning the two great commandments, "Thou art not far," says our Lord, "from the kingdom of heaven," Mark 12 : 34. Imitate the mildness and conduct of the blessed Jesus.

Come as near your opponent as you can in all your propositions, and yield to him as much as you dare in a consistence with truth and justice.

It is *a very great and fatal mistake* in persons who attempt to convince and reconcile others to their party, when *they make the difference appear as wide as possible*; this is shocking to any person who is to be convinced; he will choose rather to keep and maintain his own opinions, if he can not come into yours without renouncing and abandoning every thing that he believed before. *Human nature must be flattered a little* as well as reasoned with, that so the argument may be able to come at his understanding, which otherwise will be thrust off at a distance. If you charge a man with nonsense and absurdities, with heresy and self-contradiction, you take a very wrong step toward convincing him.

Always remember that error is not to be rooted out of the mind of man by reproaches and railing, by flashes of wit and biting jests, by loud exclamations of sharp ridicule : long declamations, and triumph over our neighbor's mistake, will not prove the way to convince him; these are signs either of a bad cause, or a want of arguments or capacity for the defense of a good one.

4. Set therefore a constant *watch over yourself, lest you grow warm in dispute* before you are aware. The passions never clear the understanding, but raise darkness, clouds, and confusion in the soul : human nature is like water which has mud at the bottom of it; it may be clear when it is calm and undisturbed, and the ideas, like pebbles,

appear bright at the bottom ; but when once it is stirred and moved by passion, the mud rises uppermost, and spreads confusion and darkness over all the ideas : you can not set things in so just and so clear a light before the eyes of your neighbor, while your own conceptions are clouded with heat and passion.

Besides, when your own spirits are a little disturbed, and your wrath is awakened, this naturally kindles the same fire in your correspondent and prevents him from taking in your ideas, were they ever so clear ; for his passions are engaged all on a sudden for the defense of his own mistakes, and they combat as fiercely as yours do, which perhaps may be awakened on the side of truth.

To provoke a person whom you would convince, not only arouses his anger and sets it against your doctrine, but it directs its resentment against your person, as well as against all your instructions and arguments. *You must treat an opponent like a friend*, if you would persuade him to learn any thing from you ; and this is one great reason why there is so little success on either side between two disputants, or controversial writers, because they are so ready to interest their passions in the subject of contest, and thereby to prevent the mutual light that might be given and received on either side : ambition, indignation, and a professional zeal, reign on both sides ; victory is the point designed, while truth is pretended ; and *truth oftentimes perishes in the fray*, or retires from the field of battle ; the combatants end just where they began, their understandings hold fast the same opinions, perhaps with this disadvantage, that they are a little more obstinate and rooted in them, without fresh reason ; and they generally come off with the loss of temper and charity.

5. *Neither attempt nor hope to convince a person of his mistake by any penal methods or severe usage.* There is no

light brought into the mind by all the fire and sword, and bloody persecutions, that were ever introduced into the world. One would think both the princes, the priests, and the people, the learned and the unlearned, the great and the mean, should have all by this time seen the folly and madness of seeking to propagate the truth by the laws of cruelty : we compel a beast to the yoke by blows, because the ox and the ass have no understanding : but intellectual powers are not to be fettered and compelled at this rate. Men can not believe what they will, nor change their religion and their sentiments as they please : they may be made hypocrites by the forms of severity and constrained to profess what they do not believe ; they may be forced to comply with external practices and ceremonies contrary to their own consciences ; but this can never please God, nor profit men.

6. In order to convince another, you should *always make choice of those arguments that are best suited to his understanding and capacity*, his genius and temper, his state, station, and circumstances. If I were to persuade a ploughman of the truth of any form of church government, it should not be attempted by the use of Greek and Latin fathers ; but from the word of God, the light of nature, and the common reason of things.

7. Arguments should always be proposed in such a manner as may *lead the mind onward to perceive the truth in a clear and agreeable light*, as well as to constrain the assent by the power of reasoning. Clear ideas, in many cases, are as useful towards conviction as a well-formed and unanswerable syllogism.

8. *Allow the person you desire to instruct a reasonable time to enter into the force of your arguments.* When you have declared your own sentiments in the brightest manner of illustration and enforced them with the most convincing arguments, you are not to suppose that your

friend should be immediately convinced and receive the truth : habitude in a particular way of thinking, as well as in most other things, obtains the force of nature ; and you can not expect to wean a man from his accustomed errors but by slow degrees and by his own assistance ; entreat him therefore not to judge on the sudden, nor determine against you at once ; but that he would please to review your scheme, reflect upon your arguments with all the impartiality he is capable of, and take time to think these over again at large ; at least, that he would be disposed to hear you speak yet further on this subject without pain or aversion.

Address him therefore in an obliging manner and say, I am not so fond as to think I have placed the subject in such lights as to throw you on a sudden into a new track of thinking, or to make you immediately lay aside your present opinions or designs ; all that I hope is, that some hint or other which I have given is capable of being improved by you to your own conviction, or possibly it may lead you to such a train of reasoning, as in time to effect a change in your thoughts. Which hint leads me to add :

9. Labor as much as possible to *make the person you would teach his own instructor*. Human nature may be allured, by a secret pleasure and pride in its own reasoning, to seem to find out by itself the very thing that you would teach ; and there are some persons that have so much of this natural bias toward self rooted in them that they can never be convinced of a mistake by the plainest and strongest arguments to the contrary, though the demonstration glare in their faces ; but they may be tempted, by such gentle insinuations, to follow a track of thought which you propose, till they have wound themselves out of their own error and led themselves hereby into your own opinion, if you do but let it appear

that they are under their own guidance rather than yours. And perhaps there is nothing which shows more dexterity of address than this secret influence over the minds of others, which they do not discern even while they follow it.

10. If you can gain the main point in question, *be not very solicitous about the nicety with which it shall be expressed.* Mankind is so vain a thing, that it is not willing to derive from another; and though it can not have every thing from itself, yet it would seem at least to mingle something of its own with what it derives elsewhere: therefore, when you have set your sentiment in the fullest light, and proved in the most effectual manner, an opponent will bring in some frivolous and useless distinction, on purpose to change the form of words in the question, and acknowledge that he receives your propositions in such a sense, and in such a manner of expression, though he can not receive it in your terms and phrases.

Vanillus will confess he is now convinced, that a man who behaves well in the state ought not to be punished for his religion, but yet he will not consent to allow a universal toleration of all religions which do not injure the state, which is the proposition I had been proving. Well, let Vanillus, therefore, use his own language; I am glad he is convinced of the truth; he shall have leave to dress it in his own way.

11. When you have labored to instruct a person in some controverted truth, and yet he retains some prejudice against it, so that he doth not yield to the convincing force of your arguments, *you may sometimes have happy success* in convincing him of that truth, *by setting him to read a weak author who writes against it;* a young reader will find such pleasure in being able to answer the arguments of the opposer, that he will drop his former prejudices against the truth and yield to the power and evidence of your reason. I confess this looks like setting up one prejudice to overthrow another; but where pre-

judices can not be fairly removed by the dint of reason, the wisest and best of teachers will sometimes find it necessary to make a way for reason and truth to take place, by this contrast of prejudices.

12. When our design is *to convince a whole family or community* of persons of any mistake and to lead them into any truth, we may justly suppose there are various reigning prejudices among them; and therefore it is not safe to attempt, nor so easy to effect it, by addressing the whole number at once. Such a method has been often found to raise a sudden alarm and has produced a violent opposition even to the most fair, pious, and useful proposal; so that he who made the motion could never carry his point.

We must therefore *first make as sure as we can of the most intelligent and learned*, at least the most leading persons among them, by addressing them apart prudently and offering proper reasons, till they are convinced and engaged on the side of truth; and these may with more success apply themselves to others of the same community: yet the original proposer should not neglect to make a distinct application to all the rest, so far as circumstances admit.

Where a thing is to be determined by a number of votes, he should labor to secure a good majority; and then take care that the most proper persons should move and argue the matter in public, lest it be quashed in the very first proposal by some prejudice against the proposer.

So unhappily are our circumstances situated in this world, that if truth, and justice, and goodness, could put on human forms, and descend from heaven to propose the most divine and useful doctrines, and bring with them the clearest evidence, and publish them at once to a multitude whose prejudices are engaged against them,

the proposal would be vain and fruitless, and would neither convince nor persuade; so necessary it is to join art and dexterity, together with the force of reason, to convince mankind of truth, unless we came furnished with miracles or omnipotence to create a conviction.

CHAPTER XIX.

OF AUTHORITY. OF THE ABUSE OF IT: AND OF ITS REAL
AND PROPER USE AND SERVICE.

I. The influence which other persons have upon our opinions is usually called authority. The power of it is so great and widely extensive, that there is scarce any person in the world entirely free from the impressions of it, even after their utmost watchfulness and care to avoid it. Our parents and tutors, yea, our very nurses, determine a multitude of our sentiments, our friends, our neighbors, the custom of the country where we dwell, and the established opinions of mankind, form our belief; the great, the wise, the pious, the learned, and the ancient; the king, the priest, and the philosopher, are characters of mighty efficacy to persuade us to receive what they dictate. These may be ranked under different heads of prejudice, but they are all of a kindred nature, and may be reduced to this one spring or head of authority.

Cicero was well acquainted with the unhappy influences of authority, and complains of it in his first book *De Naturâ Deorum*: "In disputes and controversies (says he) it is not so much the authors or patrons of any opinion, as the weight and force of argument, which should influence the mind. The authority of those who teach is a frequent hindrance to those who learn, because they utterly neglect to exercise their own judgment, taking for granted whatsoever others whom they reverence have judged for them. I can by no means approve what we learn from the Pythagoreans, that if any thing as-

serted in disputation was questioned, they were wont to answer, *Ipse dixit*, that is, He himself said so, meaning Pythagoras. So far did prejudice prevail, that authority without reason was sufficient to determine disputes and to establish truth."

All human authority, though it be never so ancient, though it hath had universal sovereignty, and swayed all the learned and vulgar world for some thousands of years, yet has no certain and undoubted claim to truth: nor is it any violation of good manners to enter a caveat with due decency against its pretended dominion.

II. Though it be necessary to guard against the evil influences of authority and the prejudices derived thence, because it has introduced thousands of errors and mischiefs into the world, yet there are three eminent and remarkable cases wherein authority or the sentiments of other persons must or will determine the judgment and practice of mankind.

1. *Parents are appointed to judge for their children* in their younger years, and instruct them what they should practice in civil and religious life. *This is a dictate of nature*, and doubtless it would have been so in a state of innocence. It is impossible that children should be capable of judging for themselves before their minds are furnished with a competent number of ideas, before they are acquainted with any principles and rules of just judgment, and before their reason is grown up to any degrees of maturity and proper exercises upon such subjects.

I will not say that a child ought to believe nonsense and impossibility because his father bids him; for so far as the impossibility appears he can not believe it: nor will I say he ought to assent to all the false opinions of his parents, or to practice idolatry and murder, or mischief, at their command; yet a child knows not any better way to find out what he should believe, and what he should practice, before he can possibly judge for himself, than

to run to his parents and receive their sentiments and their directions.

You will say this is hard indeed, that the child of a heathen idolater, or a cruel cannibal, is laid under a sort of necessity by nature of sinning against the light of nature ; I grant it is hard indeed, but it is the law of nature, namely, That a parent should judge for his child ; but if the parent judges ill, the child is greatly exposed by it; and from the equity and goodness of God, we may reasonably infer, that *the great Judge* of all will do right : he will balance the ignorance and incapacity of the child with the criminal nature of the offense in those puerile instances, and *will not punish beyond just demerit.*

Besides, what could God, as a Creator, do better for children in their minority, than to commit them to the care and instruction of parents? None are supposed to be so much concerned for the happiness of children as their parents are ; therefore it is the safest step to happiness, according to the original law of creation, to follow their directions, their parents' reason acting for them before they had reason of their own in proper exercise ; nor indeed is there any better general rule by which children are capable of being governed, though in many particular cases it may lead them far astray from virtue and happiness.

If children by Providence be cast under some happier instructions, contrary to their parents' erroneous opinion, I can not say it is the duty of such children to follow error when they discern it to be error, because their father believes it : what I said before is to be interpreted only of those that are under the immediate care and education of their parents, and not yet arrived at years capable of examination. I know not how these can be freed from receiving the dictates of parental authority in their youngest years, except by immediate or divine inspiration.

It is hard to say at what exact time of life the child is exempted from the sovereignty of parental dictates. Perhaps it is much juster to suppose that this sovereignty diminishes by degrees, as the child grows in understanding and capacity, and is more and more capable of exerting his own intellectual powers, than to limit this matter by months and years.

When childhood and youth are so far expired that the reasoning faculties are grown up to any just measures of maturity, it is certain that persons ought to begin to inquire into the reasons of their own faith and practice in all the affairs of life and religion : but as reason does not arrive at this power and self-sufficiency in any single moment of time, so there is no single moment when a child should at once cast off all his former beliefs and practices; but by degrees, and in slow succession, he should examine them, as opportunity and advantage offer, and either confirm, or doubt of, or change them, according to the leading of conscience and reason, with all its advantages of information.

When we are arrived at manly age, there is no person on earth, no set or society of men whatsoever, that have power and authority given them by God, the Creator and Governor of the world, absolutely to dictate to others their opinions or practices in moral and religious life. God has given every man reason to judge for himself, in higher or lower degrees. Where less is given, less will be required. But we are justly chargeable with criminal sloth and improvement of the talents with which our Creator has instructed us, if we take all things for granted which others assert, and believe and practice all things which they dictate without due examination.

2. *Another case* wherein authority must govern our assent *is in many matters of fact.* Here we may and ought to be determined *by the declaration or narratives of other men*; though I confess this is usually called testimony

rather than authority. It is upon this foot that every son or daughter among mankind are required to believe that such and such persons are their parents, for they can never be informed of it by the dictates of others. It is by testimony that we are to believe the laws of our country, and to pay all proper deference to the prince and to magistrates in subordinate degrees of authority, though we did not actually see them chosen, crowned, or invested with their title and character. It is by testimony that we are necessitated to believe there is such a city as Canterbury or York, though perhaps we have never been at either; that there are such persons as papists at Paris and Rome, and that there are many sottish and cruel tenets in their religion. It is by testimony that we believe that Christianity and the books of the Bible, have been faithfully delivered down to us through many generations; that there was such a person as Christ our Saviour, that He wrought miracles and died on the cross, that He rose again and ascended to heaven.

The authority or testimony of men, if they are wise and honest, if they had full opportunities and capacities of knowing the truth, and are free from all suspicion of deceit in relating it, *ought to sway our assent*; especially *when multitudes concur in the same testimony*, and when there are many other attending circumstances which raise the proposition which they dictate to the degree of moral certainty.

But in this very case, even in matters of fact and affairs of history, we should not too easily give into all the dictates of tradition, and the pompous pretenses to the testimony of men till we have fairly examined the several things which are necessary to make up credible testimony, and to lay a just foundation for our belief. There are and have been *so many falsehoods* imposed upon

mankind with specious pretenses of eye and ear witnesses, that *should make us wisely cautious* and justly suspicious of reports ; where the concurrent signs of truth do not fairly appear, and especially where the matter is of considerable importance. And the less probable the fact testified is in itself, the greater evidence justly we may demand of the veracity of that testimony on which it claims to be admitted.

3. The last case wherein authority must govern us is when we are called to *believe what persons under inspiration have dictated to us*. This is not properly the authority of men, but of God Himself ; and we are obliged to believe what that authority asserts, though our reason at present may not be able, any other way, to discover the certainty or evidence of the proposition ; *it is enough if our faculty of reason, in its best exercise, can discover the divine authority* which has proposed it. Where doctrines of divine revelation are plainly published, together with sufficient proofs of their revelation, all mankind are bound to receive them, though they can not perfectly understand them, for we know that God is true and can not dictate falsehood.

But if these pretended dictates are directly contrary to the natural faculties of understanding and reason which God has given us, we may be well assured these dictates were never revealed to us by God Himself. When persons are really influenced by authority to believe pretended mysteries in plain opposition to reason, and yet pretend reason for what they believe, this is but a vain amusement.

III. I have mentioned three classes wherein mankind must or will be determined in their sentiments, by authority ; that is the case of children in their minority, in regard of the commands of their parents ; the case of all men, with regard to universal, and complete, and

sufficient testimony of matter of fact; and the case of every person, with regard to the authority of divine revelation, and of men divinely inspired; and under each of these I have given some such limitations and cautions as were necessary. I proceed now to mention some other cases wherein we ought to pay a great deference to the authority and sentiments of others, though we are not absolutely concluded and determined by their opinions.

1. When we begin to pass out of our minority, and to judge for ourselves in the matters of civil and religious life, *we ought to pay very great deference to the sentiments of our parents*, who in time of our minority were our natural guides and directors in these matters. So in matters of science, an ignorant and unexperienced youth should pay great deference to the opinions of his instructors; and though he may justly suspend his judgment in matters which his tutors dictate till he perceives sufficient evidence for them, yet neither parents nor tutors should be directly opposed without great and most evident reasons, such as constrain the understanding or conscience of those concerned.

2. *Persons of years and long experience in human affairs*, when they give advice in matters of prudence or civil conduct, ought to have a considerable deference paid to their authority by those that are young and have not seen the world, for it is more probable that the elder persons are in the right.

3. In the affairs of practical godliness there should be much deference paid to *persons of long standing in virtue and piety*. I confess, in the particular forms and ceremonies of religion, there may be as much bigotry and superstition among the old as the young; but in questions of inward religion, and pure devotion or virtue, a man who has been long engaged in the sincere practice

of these things, is justly presumed to know more than a youth with all his ungoverned passions, appetites, and prejudices about him.

4. *Men in their several professions and arts* in which they have been educated, and in which they have employed themselves all their days, must be supposed to have a greater knowledge and skill than others; and therefore there is due respect to be paid to their judgments in those matters.

5. In matters of fact, where there is not sufficient testimony to constrain our assent, yet there ought to be due deference paid to *the narratives of persons wise and sober*, according to the degrees of their honesty, skill, and opportunity, to acquaint themselves therewith.

I confess, in many of these cases, where the proposition is a mere matter of speculation, and doth not necessarily draw practice along with it, we may delay our assent till better evidence appear; but where the matter is of a practical nature, and requires us to act one way or another, we ought to pay much deference to authority or testimony, and follow such probabilities where we have no certainty; for this is the best light we have; and surely it is better to follow such sort of guidance, where we can have no better, than to wander and fluctuate in absolute uncertainty. It is not reasonable to put out our candle and sit still in the dark, because we have not the light of sun-beams.

CHAPTER XX.

OF TREATING AND MANAGING THE PREJUDICES OF MEN.

I. IF we had nothing but the reason of men to deal with, and that reason were pure and uncorrupted, it would then be a matter of no great skill or labor to con-

vince another person of common mistakes, or to persuade him to assent to plain and obvious truths. But alas! mankind stands wrapped round in errors, and entrenched in prejudices; and every one of their opinions is supported and guarded by some thing else besides reason. A young bright genius, who has furnished himself with a variety of truths and strong arguments, but is yet unacquainted with the world, goes forth from the schools, like a knight-errant, presuming bravely to vanquish the follies of men, and to scatter light and truth through all their acquaintance: but he meets with huge giants and enchanted castles, strong prepossessions of mind, habits, customs, education, authority, interest, together with all the various passions of men, armed and obstinate to defend their old opinions; and he is strangely disappointed in his generous attempts. He finds now that he must not trust to the sharpness of his steel and to the strength of his arm, but he must manage the weapons of his reason with much dexterity and artifice, with skill and address, or he shall never be able to subdue errors and to convince mankind.

II. Where prejudices are strong, there are these several methods to be practiced in order to convince persons of their mistakes and make a way for truth to enter into their mind.

1. *By avoiding the power and influence of the prejudice without any direct attack upon it*; and this is done by choosing all the slow, soft, and distant methods of proposing your own sentiments and your arguments for them, and by degrees leading the person step by step into those truths which his prejudices would not bear if they were proposed at once.

Perhaps your neighbor is under the influence of superstition and bigotry in the simplicity of his soul: you

must not immediately run upon him with violence and show him the absurdity or folly of his own opinions, though you might be able to set them in a glaring light ; but you must rather *begin at a distance* and establish his assent to some familiar and easy propositions which have a tendency to refute his mistakes and to confirm the truth ; and *then silently observe what impression this makes upon him*, and proceed by slow degrees as he is able to bear ; and you must carry on the work, perhaps at distant seasons of conversation : the tender or diseased eye can not bear a deluge of light at once.

Therefore, we are not to consider our arguments merely according to our own notions of their force, and from thence expect the immediate conviction of others ; but we should regard how they are likely to be received by the persons we converse with ; and thus manage our reasoning, as the nurse gives a child drink by slow degrees, lest the infant should be choked, or return it all back again, if poured in too hastily. *If your wine be ever so good*, and you are ever so liberal in bestowing it on your neighbor, *yet if his bottle*, into which you pour it with freedom, *has a narrow mouth*, you will sooner upset the bottle than fill it with wine.

2. *We may expressly allow and indulge those prejudices for a season* which seem to stand against the truth, and endeavor to introduce the truth by degrees, while those prejudices are expressly allowed, till by degrees the advanced truth may of itself wear out the prejudice.

When the prejudices of mankind can not be conquered at once, but they will rise up in arms against the evidence of truth, there we must make some allowances and *yield to them for the present*, as far as we can safely do it without real injury to truth : and if we would have any success in our endeavors to convince the world, we must practice this complaisance for the benefit of mankind.

Take a student who has deeply imbibed the principles of the Peripatetics, and imagines certain immaterial beings called substantial forms to inhabit every herb, flower, mineral, metal, fire, water, etc., and to be the spring of all its properties and operations; or take a Platonist, who believes an *anima mundi*, a universal soul of the world to pervade all bodies, to act in and by them according to their nature, and indeed to give them their nature and their special powers; perhaps it may be very hard to convince these persons by argument, and constrain them to yield up these fancies. Well then, let the one believe his universal soul, and the other go on with his notion of substantial forms, and at the same time teach them how by certain original laws of motion, and the various sizes, shapes, and situations of the parts of matter, allowing a continued divine concurrence in and with all, the several appearances in nature may be solved, and the variety of effects produced, according to the corpuscular philosophy improved by Descartes, Mr. Boyle, and Sir Isaac Newton; and when they have attained a degree of skill in this science, they will see these airy notions of theirs, these imaginary powers, to be so useless and unnecessary, that they will drop them of their own accord: the Peripatetic forms will vanish from the mind like a dream, and the Platonic soul of the world will expire.

I may give another instance of the same practice, where there is a prejudicate fondness of particular words and phrases. Suppose a man is educated in an unhappy form of speech, whereby he explains some great doctrine of the Gospel, and by the means of this phrase he has imbibed a very false idea of that doctrine: yet he is so bigoted to his form of words, that he imagines if those words are omitted, the doctrine is lost. Now if I can not possibly persuade him to part with his improper terms, I will indulge them a little, and try to explain them in a Scriptural sense, rather than let him go on in his mistaken ideas.

I grant it is most proper there should be different words (as far as possible) applied to different ideas; and this rule should never be dispensed with, if we had to do only with the reason of mankind; but their various prejudices and zeal for some party phrases sometimes make it necessary that we should lead them into truth

under the covert of their own beloved forms of speech, rather than permit them to live and die obstinate and unconvincible in any dangerous mistake: whereas an attempt to deprive them of their old-established words would raise such a tumult within them, as to render their conviction hopeless.

3. Sometimes we may *make use of the very prejudices under which a person labors in order to convince him* of some particular truth, and argue with him upon his own professed principles as though they were true. This is called *argumentum ad hominem*, and is another way of dealing with the prejudices of men.

Suppose a Jew lies sick of a fever and is forbidden flesh by his physician; but hearing that rabbits were provided for the dinner of the family, desired earnestly to eat of them; and suppose he became impatient because his physician did not permit him, and he insisted upon it that it could do him no hurt. Surely rather than let him persist in that fancy and that desire, to the danger of his life, I would tell him that those animals were strangled, which sort of food was forbidden by the Jewish law, though I myself may believe that law is now abolished.

In the same manner was Tenerilla persuaded to let Damon, her husband, prosecute a thief who broke open their house on a Sunday. At first she abhorred the thoughts of it, and refused it utterly, because, if the thief were condemned, according to the English law he must be hanged, whereas (said she) the law of God, in the writings of Moses, doth not appoint death to be the punishment of such criminals, but tells us that a thief should be sold for his theft.—Exod. 22: 3. But when Damon could not otherwise convince her that the thief ought to be prosecuted, he put her in mind that the theft was committed on Sunday morning: now the same law of Moses requires that the Sabbath-breaker shall surely be put to death.—Exod. 31: 15; Numb. 15: 35. This argument prevailed with Tenerilla, and she consented to the prosecution.

Encrates used the same means of conviction when he saw a Mahommedan drink wine to excess, and heard him maintain the lawfulness and pleasure of drunkenness; Encrates reminded him that his own prophet Mahomet had utterly forbidden all wine to his followers, and the good man restrained his vicious appetite by this superstition, when he could not otherwise convince him that drunkenness was unlawful, nor withhold him from excess.

When we find any person obstinately persisting in a mistake in opposition to all reason, especially if the mistake be very injurious or pernicious, and we know this person will hearken to the sentiment or authority of some favorite name, it is needful sometimes to use the opinion and authority of that favorite person, since that is likely to be regarded much more than reason. I confess I am almost ashamed to speak of using any influence of authority while I would teach the art of reasoning. But in some cases it is better that poor, silly, perverse, obstinate creatures should be persuaded to judge and act aright, by a veneration for the sense of others, than to be left to wander in pernicious errors, and continue deaf to all argument and blind to all evidence. *They are but children of a larger size*, and since they persist all their lives in their minority and reject all true reasoning, surely we may try to persuade them to practice what is for their own interest by such childish reasons as they will hearken to : we may overawe them from pursuing their own ruin by the terrors of a solemn shadow, or allure them by a sugar-plum to their own happiness.

But after all, we must conclude that wheresoever it can be done, it is best to remove and root out those prejudices which obstruct the entrance of truth into the mind, rather than to palliate, humor, or indulge them ; and sometimes this must necessarily be done before you can make a person part with some beloved error, and lead him into better sentiments.

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These volumes are not revisions of old works, not an addition to any series, but are entirely new productions, — each by itself complete, independent, comprehensive, yet simple, brief, cheap, and popular; or, taken together, the most admirable “series” ever offered for a common-school course. They present the following features, skilfully interwoven, the student learning all about one country at a time. Always revised to date of printing.

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GEOGRAPHY — *Continued.*

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A SHEEP RANCH IN MONTANA.

[Specimen Illustration from McNally's New Geography.]

GEOGRAPHY — Continued.

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Showing all the political divisions of the world, with map-drawing and written exercises, or imaginary voyages, commercial routes, principal products, comparative areas and populations, height of mountains, length of rivers, highlands, and lowlands. 16 full-page, finely colored maps. 49 pages. Small quarto.

The maps show all that is needful for the study of geography, besides the courses of rivers and oceanic currents, comparative time by clock faces, standard time, profile maps, comparative latitude and extent, comparative area, comparative temperature, highlands and lowlands, principal products, rate of speed on rail or steamship. Particularly valuable as a text-book where oral teaching is attempted.

Monteith's Old Physical Geography.

The cry of "Too much of Text-Books," so frequently heard, is most happily answered by this exceedingly valuable little work, entitled "Monteith's Physical Geography." Within a convenient-sized volume (54 pp. quarto) the author here presents all of Physical Geography that the majority of classes can possibly find time to pursue.

The kindred sciences hitherto unnecessarily combined with this branch of study — adding far more to the size and price of the text-books than to their value — are in this work either very materially cut down or wholly eliminated. The book is admirably illustrated, containing over sixty very practical cuts, and a sufficient number of finely colored Maps. Its arrangement is excellent, paper, type, binding, etc., fully in keeping with its other advantages, and its price so moderate that it is brought within the reach of all grades of schools.

Monteith's New Physical Geography.

Owing to the great progress made in physical science during the past few years, the publishers of Monteith's Physical Geography have deemed it necessary to prepare a new volume which shall embrace the more recent results of modern research in this field. The great popularity enjoyed by Monteith's Physical Geography during the past twenty-five years warrants the assertion that the volume now presented will prove a most valuable addition to the geographical works of Professor Monteith, which have since their publication been recognized as standards.

In presenting Monteith's New Physical Geography, the publishers desire to call the attention of educators and school boards to the following points: —

It embraces all of the recent discoveries in Physiography, Hydrography, Meteorology, Terrestrial Magnetism, and Vulcanology.

In the mechanical execution of its pages it is unsurpassed by any text-book of the kind ever published.

The maps and charts have been compiled from original sources, and therefore comprise the latest discoveries pertaining to geographical science.

While the easy style, graphic description, and the topical arrangement of subjects adapt it especially for use in grammar schools, it will be found equally adapted for use in high and normal schools. Concluding each chapter is a brief *résumé* of the main facts presented therein, a feature that will commend itself to every live teacher and pupil.

Many of the chapters contain much new matter that has never before appeared in any text-book. As examples of this may be mentioned the subject of *Terrestrial Magnetism*, in the preparation of which the author has had access to the records of the U.S. Magnetic Observatory, through the courtesy of Professor Marcus Baker, U.S.C. & G.S.

The subject of *Volcanoes* has been compiled from the observations of Professor Judd, who is the recognized leading authority on this subject.

The chapters on *River and Ocean Hydrography* embrace many new and interesting facts brought to light by the new surveys of the U.S. Engineer Corps, and by Commander Bartlett, U.S.N. Those pertaining to *Ocean Currents* are especially important.

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Monteith's Pictorial Chart of Geography.

The original drawing for this beautiful and instructive chart was greatly admired in the publisher's "exhibit" at the Centennial Exhibition of 1876. It is a picture of the earth's surface with every natural feature displayed, teaching also physical geography, and especially the mutations of water. The uses to which man puts the earth and its treasures and forces, as Agriculture, Mining, Manufacturing, Commerce, and Transportation, are also graphically portrayed, so that the young learner gets a realistic idea of "the world we live in," which weeks of book study might fail to convey.

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By Charles Davies, LL.D., author of a Full Course of Mathematics. Revised by J. Howard Van Amringe, A.M., Ph.D., Professor of Mathematics in Columbia College. 566 pages. Svo. Full sheep.

Davies' Surveying originally appeared as a text-book for the use of the United States Military Academy at West Point. It proved acceptable to a much wider field, and underwent changes and improvements, until the author's final revision, and has remained the standard work on the subject for many years.

In the present edition, 1883, while the admirable features which have hitherto commended the work so highly to institutions of learning and to practical surveyors have been retained, some of the topics have been abridged in treatment, and some enlarged. Others have been added, and the whole has been arranged in the order of progressive development. A change which must prove particularly acceptable is the transformation of the article on mining-surveying into a complete treatise, in which the location of claims on the surface, the latest and best methods of underground traversing, &c., the calculation of ore-reserves, and all that pertains to the work of the mining-surveyor, are fully explained and illustrated by practical examples. Immediately on the publication of this edition it was loudly welcomed in all quarters. A letter received as we write, from Prof. R. C. Carpenter, of the Michigan State Agricultural College, says: "I am delighted with it. I do not know of a more complete work on the subject, and I am pleased to state that it is filled with examples of the best methods of modern practice. We shall introduce it as a text-book in the college course." This is a fair specimen of the general reception.

Mathematical Almanac and Annual
says:—

"Davies is a deservedly popular author, and his mathematical works are text-books in many of the leading schools and colleges."

Van Nostrand's Eclectic Engineering Magazine
says:—

"We find in this new work all that can be asked for in a text-book. If there is a better work than this on Surveying, either for students or surveyors, our attention has not been called to it."

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Van Amringe's Davies' Legendre.

Elements of Geometry and Trigonometry. By Charles Davies, LL.D. Revised (1885) by Prof. J. H. Van Amringe of Columbia College. New pages. Svo. Full leather.

The present edition of the Legendre is the result of a careful re-examination of the work, into which have been incorporated such emendations in the way of greater clearness of expression or of proof as could be made without altering it in form or substance. Practical exercises are placed at the end of the several books, and comprise additional theorems, problems, and numerical exercises upon the principles of the Book or Books preceding. They will be found of great service in accustoming students, early in and throughout their course, to make for themselves practical application of geometric principles, and constitute, in addition, a large and excellent body of review and test questions for the convenience of teachers. The Trigonometry and mensuration have been carefully revised throughout; the deduction of principles and rules has been simplified; the discussion of the several cases which arise in the solution of triangles, plane and spherical, has been made more full and clear; and the whole has, in definition, demonstration, illustration, &c., been made to conform to the latest and best methods.

It is believed that in clearness and precision of definition, in general simplicity and rigor of demonstration, in the judicious arrangement of practical exercises, in orderly and logical development of the subject, and in compactness of form, Davies' Legendre is superior to any work of its grade for the general training of the logical powers of pupils, and for their instruction in the great body of elementary geometric truth.

The work has been printed from entirely new plates, and no care has been spared to make it a model of typographical excellence.

DAVIES'S NATIONAL COURSE OF MATHEMATICS.

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In claiming for this series the first place among American text-books, of whatever class, the publishers appeal to the magnificent record which its volumes have earned during the *thirty-five years* of Dr. Charles Davies's mathematical labors. The unrelenting exertions of a life-time have placed the *modern series* on the same proud eminence among competitors that each of its predecessors had successively enjoyed in a course of constantly improved editions, now rounded to their perfect fruition, — for it seems almost that this science is susceptible of no further demonstration.

During the period alluded to, many authors and editors in this department have started into public notice, and, by borrowing ideas and processes original with Dr. Davies, have enjoyed a brief popularity, but are now almost unknown. Many of the series of to-day, built upon a similar basis, and described as "modern books," are destined to a similar fate; while the most far-seeing eye will find it difficult to fix the time, on the basis of any data afforded by their past history, when these books will cease to increase and prosper, and fix a still firmer hold on the affection of every educated American.

One cause of this unparalleled popularity is found in the fact that the enterprise of the author did not cease with the original completion of his books. Always a practical teacher, he has incorporated in his text-books from time to time the advantages of every improvement in methods of teaching, and every advance in science. During all the years in which he has been laboring he constantly submitted his own theories and those of others to the practical test of the class-room, approving, rejecting, or modifying them as the experience thus obtained might suggest. In this way he has been able to produce an almost perfect series of class-books, in which every department of mathematics has received minute and exhaustive attention.

Upon the death of Dr. Davies, which took place in 1876, his work was immediately taken up by his former pupil and mathematical associate of many years, Prof. W. G. Peck, LL.D., of Columbia College. By him, with Prof. J. H. Van Amringe, of Columbia College, the original series is kept carefully revised and up to the times.

DAVIES'S SYSTEM IS THE ACKNOWLEDGED NATIONAL STANDARD FOR THE UNITED STATES, for the following reasons:—

1st. It is the basis of instruction in the great national schools at West Point and Annapolis.

2d. It has received the *quasi* indorsement of the National Congress.

3d. It is exclusively used in the public schools of the National Capital.

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6th. A larger number of American citizens have received their education from this than from any other series.

7th. The series has a larger circulation throughout the whole country than any other, being *extensively used in every State in the Union*.

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OPTIONAL OR CONSECUTIVE.

The best thoughts of these two illustrious mathematicians are combined in the following beautiful works, which are the natural successors of Davies's *Arithmetics*, sumptuously printed, and bound in crimson, green, and gold:—

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Also called the "Elementary Arithmetic." It is the shortest presentation of the subject, and is *adequate* for all grades in common schools, being a thorough introduction to practical life, except for the specialist.

At first the authors play with the little learner for a few lessons, by object-teaching and kindred allurements; but he soon begins to realize that study is earnest, as he becomes familiar with the simpler operations, and is delighted to find himself master of important results.

The second part reviews the Fundamental Operations on a scale proportioned to the enlarged intelligence of the learner. It establishes the General Principles and Properties of Numbers, and then proceeds to Fractions. Currency and the Metric System are fully treated in connection with Decimals. Compound Numbers and Reduction follow, and finally Percentage with all its varied applications.

An Index of words and principles concludes the book, for which every scholar and most teachers will be grateful. How much time has been spent in searching for a half-forgotten definition or principle in a former lesson!

Davies and Peck's Complete Arithmetic.

This work certainly deserves its name in the best sense. Though complete, it is not, like most others which bear the same title, *cumbersome*. These authors excel in clear, lucid demonstrations, teaching the science pure and simple, yet not ignoring convenient methods and practical applications.

For turning out a thorough business man no other work is so well adapted. He will have a clear comprehension of the science as a whole, and a working acquaintance with details which must serve him well in all emergencies. Distinguishing features of the book are the logical progression of the subjects and the great variety of practical problems, not *puzzles*, which are beneath the dignity of educational science. A clear-minded critic has said of Dr. Peck's work that it is free from that juggling with numbers which some authors falsely call "Analysis." A series of Tables for converting ordinary weights and measures into the Metric System appear in the later editions.

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Peck's First Lessons in Numbers.

This book begins with pictorial illustrations, and unfolds gradually the science of numbers. It noticeably simplifies the subject by developing the principles of addition and subtraction simultaneously; as it does, also, those of multiplication and division.

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This book is designed especially for those who seek sufficient instruction to carry them successfully through practical life, but have not time for extended study.

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This completes the series but is a much briefer book than most of the complete arithmetics, and is recommended not only for what it contains, but also for what is omitted.

It may be said of Dr. Peck's books more truly than of any other series published, that they are clear and simple in definition and rule, and that superfluous matter of every kind has been faithfully eliminated, thus magnifying the working value of the book and saving unnecessary expense of time and labor.

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These two works constitute a *complete arithmetical course in two books*.

They meet the demand for text-books that will help students to acquire the greatest amount of useful and practical knowledge of Arithmetic by the smallest expenditure of *time, labor, and money*. Nearly every topic in Written Arithmetic is introduced, and its principles illustrated, by exercises in *Oral Arithmetic*. The free use of Equations; the concise method of combining and treating Properties of Numbers; the treatment of Multiplication and Division of Fractions in *two* cases, and then reduced to *one*; Cancellation by the use of the vertical line, especially in Fractions, Interest, and Proportion; the brief, simple, and greatly superior method of working Partial Payments by the "Time Table" and Cancellation; the substitution of formulas to a great extent for rules; the full and practical treatment of the Metric System, &c., indicate their completeness. A *variety* of methods and processes for the *same topic*, which deprive the pupil of the great benefit of doing a part of the *thinking and labor* for himself, have been discarded. The statement of principles, definitions, rules, &c., is brief and simple. The illustrations and methods are explicit, direct, and practical. The great number and variety of Examples embody the actual business of the day. The very large amount of matter condensed in so small a compass has been accomplished by economizing every line of space, by rejecting superfluous matter and obsolete terms, and by avoiding the *repetition* of analyses, explanations, and operations in the advanced topics which have been used in the more elementary parts of these books.

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In many schools there are classes that for various reasons never reach beyond Percentage. It is just such cases where *Barnes's Practical Arithmetic* will answer a good purpose, at a *price to the pupil* much less than to buy the complete book. On the other hand, classes having finished the ordinary Practical Arithmetic can proceed with the higher course by using *Barnes's Advanced Arithmetic*.

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which begins with the most elementary notions of numbers, and proceeds, by simple steps, to develop all the fundamental principles of Arithmetic.

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This work, as its title indicates, is elementary in its character and suitable for use, (1) in such public schools as give instruction in the Elements of Algebra; (2) in institutions of learning whose courses of study do not include Higher Algebra; (3) in schools whose object is to prepare students for entrance into our colleges and universities. This book will also meet the wants of students of Physics who require some knowledge of

Algebra. The student's progress in Algebra depends very largely upon the proper treatment of the four *Fundamental Operations*. The terms *Addition*, *Subtraction*, *Multiplication*, and *Division* in Algebra have a wider meaning than in Arithmetic, and these operations have been so defined as to include their arithmetical meaning; so that the beginner is simply called upon to *enlarge* his views of those fundamental operations. Much attention has been given to the explanation of the negative sign, in order to remove the well-known difficulties in the use and interpretation of that sign. Special attention is here called to "A Short Method of Removing Symbols of Aggregation," Art. 76. On account of their importance, the subjects of *Factoring*, *Greatest Common Divisor*, and *Least Common Multiple* have been treated at greater length than is usual in elementary works. In the treatment of *Fractions*, a method is used which is quite simple, and, at the same time, more general than that usually employed. In connection with *Radical Quantities* the roots are expressed by fractional exponents, for the principles and rules applicable to integral exponents may then be used without modification. The *Equation* is made the chief subject of thought in this work. It is defined near the beginning, and used extensively in every chapter. In addition to this, four chapters are devoted exclusively to the subject of *Equations*. All *Proportions* are equations, and in their treatment as such all the difficulty commonly connected with the subject of Proportion disappears. The chapter on Logarithms will doubtless be acceptable to many teachers who do not require the student to master Higher Algebra before entering upon the study of Trigonometry.

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The briefest treatises on these subjects now published. Adopted by the great Universities: Yale, Harvard, Columbia, Princeton, Cornell, &c.

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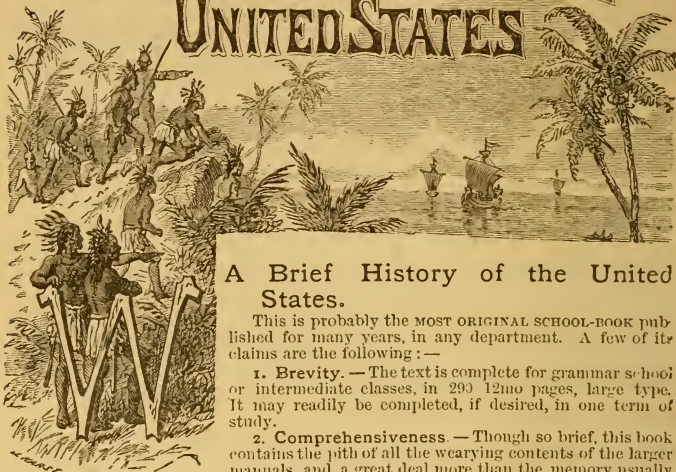
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A Brief History of the United States.

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HISTORY — *Continued.*

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HISTORY — Continued.

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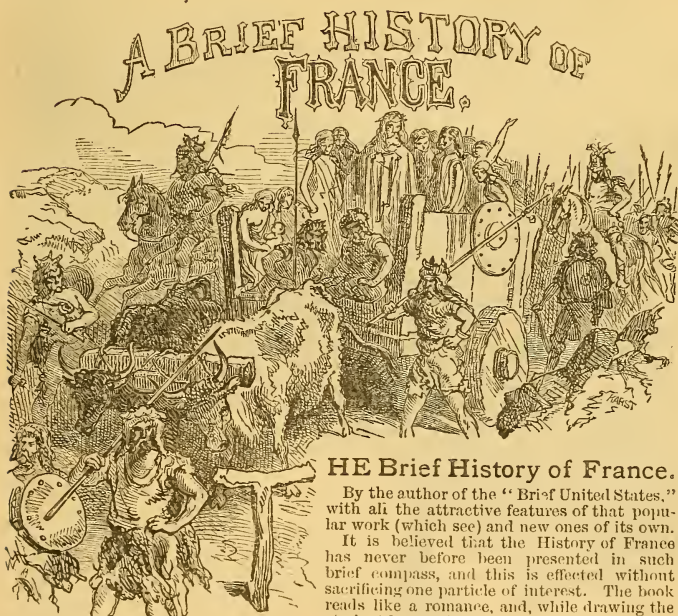
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The peculiar **Summaries**, and valuable lists of **Reading References**. See p. 417.

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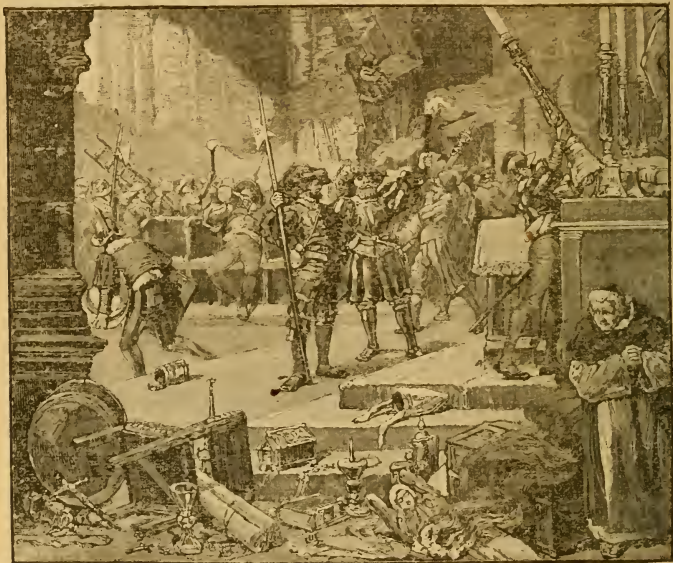
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[Specimen Illustration from Barnes's Brief-History Series.]

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MY DEAR SIR,—Your very liberal publishers (Messrs. A. S. Barnes & Co.) have done me the honor to send me a copy of your excellent works, *The First French* and *The Second German Book*. It needed no introduction in the shape of complimentary notices sans nombres to call my attention to the eminent merits of these valuable publications. But I was sincerely glad that the public at large, as well as me, confrères littéraires dans ce département de la Linguistique, have at length discerned the great advantages of your method, and enabled you and your publishers to bring out your works in a style so truly in sympathy with the intrinsic value of the different volumes.

Most unfortunately — for how I should delight to wield such exquisitely shaped and sharpened instruments to make my way into thick crania and dense brains! — our university way of teaching does not admit of the admirable method prescribed in your volumes. The laws of the Medes are as irreversible here as the Decrees of Mr. Jefferson, and when I fancied I had obtained the victory, I found myself faced by a stern decree. All I can do, therefore, is to recommend your works most earnestly and most urgently, in the point of economy, to my young graduates, hundreds of whom leave us every harvest time, to scatter their seeds broadcast over the vast fields of the South, and to profess boldly their adherence to the confessions of their teachers.

Wishing you heartily the best success, and hoping that I shall be able hereafter also modestly to assist you, I remain, very sincerely yours, SCHELE DE VERE.

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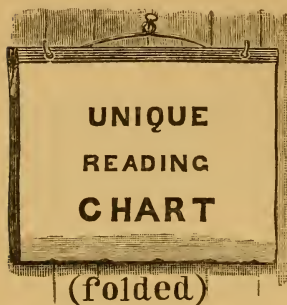
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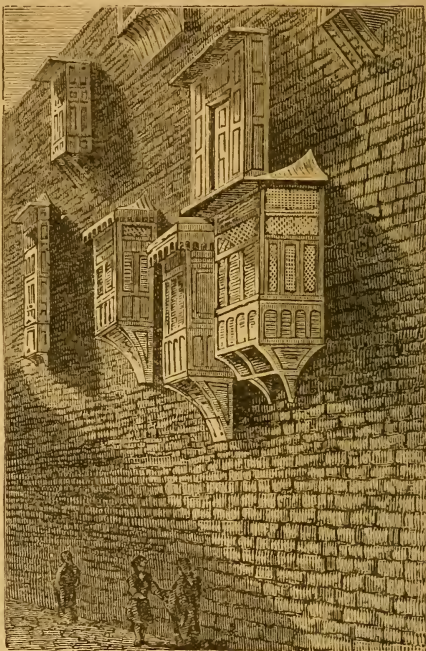
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